DOCUMENT RESUME

ED 251 120 IR 050 942

TITLE Preparing for Emergencies and Disasters. SPEC Kit 69.

INSTITUTION Association of Research Libraries, Washington, D.C. Office of Management Studies.

PUB DATE Dec 80

NOTE 118p.; For related documents, see IR 050 939 and IR 050 943.

PUB TYPE Collected Works - General (020) -- Guides - Non-Classroom Use (055) -- Reports - Descriptive (141)

EDRS PRICE MF01/PC05 Plus Postage.

DESCRIPTORS *Academic Libraries; Case Studies; *Emergency Programs; Higher Education; Library Collections; *Library Materials; *Library Planning; *Natural Disasters; Position Papers; *Preservation; Prevention; Research Libraries

ABSTRACT

Findings from a March 1980 Systems and Procedures Exchange Center (SPEC) survey on preservation indicated that more than one-fourth of the members of the Association of Research Libraries (ARL) had written disaster plans, and many other plans were in preparation. This SPEC kit on preparing for emergencies and disasters comprises excerpts from committee reports, manuals, plans, and case histories; and includes documents on" (1) disaster preparedness, (Cornell University, Yale University, Stanford University, and University of Rochester); (2) protecting people and property, (Northwestern University, John Crerar Library, Cornell University, and University of Houston); (3) salvaging library materials, (New York Public Library, McMaster University, University of California-Riverside, and the National Library of Medicine); and (4) three case studies: "The Memorial Day Steam Cleaning" (Northwestern University), "Report on the July 11, 1976 Flood" (Cornell University), and an excerpt from "The Stanford-Lockheed Meyer Library Flood Report" (Stanford University). The concise summary that introduces the kit covers steps involved in preparing a plan and cites several published resources available to guide those responsible for the development of plans or salvage efforts. (THC)

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Preparing for Emergencies and Disasters

Kit 69

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NOV.-DEC. 1980 #69

OMS

Systems and Procedures Exchange Center

ISSN - 0160 - 3574

PREPARING FOR EMERGENCIES AND DISASTERS

In 1966, a flood in Florence, Italy, caused massive destruction and damage not only to homes and businesses, but also to libraries, museums, and churches that served as storehouses of Western culture. This was not the first disaster to threaten unique and valuable records of humankind, but it was an event so dramatic and so extensively reported throughout the world that it made the library profession vividly aware of the vulnerability of its collections. In addition, the troubled social conditions of the 1960s -- urban and campus rioting, waves of vandalism and arson -- served to heighten this concern, as libraries became easy targets for persons venting dissatisfaction with civic and academic institutions.

While fires, floods, earthquakes, and disorders continue to take a heavy toll, recent years have brought the development of numerous techniques for the salvage of damaged materials. This activity, in turn, has stimulated libraries to recognize the importance of active programs of disaster prevention, and the value of contingency plans for minimizing the effects of disasters that can't be averted. The March 1980 SPEC Survey on Preservation indicated that over one-fourth of ARL members now have written disaster plans, and many others are in preparation.

PREPARING A PLAN The preparation of a disaster plan or emergency manual can be a major undertaking, involving not only a thorough review of the literature, but a detailed inspection of physical facilities, coordination with institutional maintenance and engineering staff and local safety officials, establishment of a cache of emergency supplies, identification of contacts for additional supplies and outside assistance, and education of the entire library staff. Though such plans must be kept up-to-date if they are to be useful, the initial effort is a one-time project. Many libraries have found it effective to appoint an ad hoc committee or task force to carry out the work, and at least one library has developed a disaster plan as part of its application of the OMS's Collection Analysis Project (CAP). Although the assignment can be given to a single individual, there are definite advantages in involving a cross section of staff with a broad knowledge of the collections, and the experience does much to raise the level of staff awareness not only about disaster prevention and recovery, but about many related preservation issues as well.

In addition to studying the published literature, a disaster plan task force will find it valuable to compare plans that have been developed at other libraries which illustrate the several ways in which general principles can be adapted to specific institutional conditions. The nature of buildings

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evacuation procedures. Proximity to outside sources of supplies and expertise may influence the scope of internal preparation. The value and replaceability of segments of the collection should affect salvage priorities.

Regardless of local variations, comprehensive plans should address three distinct sets of activities: 1) prevention, which involves surveying and improving facilities to reduce the potential for accident; 2) emergency preparedness, which requires educating staff and assembling supplies and equipment; and 3) salvage or recovery planning, which establishes a sequence of procedures and assigns specific responsibilities to be carried out in response to particular problems. Fire and water-related crises are the most common and thoroughly researched, but contingency planning should not neglect the threats to people and collections posed by such other hazards as biological infestation, vandalism, breakdown of mechanical systems, windstorm, earthquake, and even volcanic eruption.

The energy and attention given to a disaster plan project will benefit the library not only by reducing the likelihood of major disaster and improving the chances of recovery if it occurs, but also by enhancing staff awareness and institutional commitment to the physical care of the collections. While catastrophe may visit only a small percentage of libraries, pipes can burst, air conditioners can leak, and windows can be left open to the rain anywhere. A library prepared for a major emergency will find itself more able to cope with these lesser but still serious problems.

PUBLISHED RESOURCES Among the several publications now available to guide those responsible for the development of plans or salvage efforts is the well-known resource Procedures for Salvage of Water-Damaged Library Materials (Washington, D.C., Library of Congress, 1975), by Peter Waters, the LC Restoration Officer whose experiences with salvage operations in Florence and several fire-related floods in the United States are here distilled into a succinct script for water crisis management. Another key resource, Disaster Prevention and Disaster Preparedness (Berkeley: University of California, 1978), by Hilda Bohem, provides a detailed outline of the steps a library can take to reduce the likelihood of destructive accidents and to develop an in-house capability to respond quickly in an emergency. Managing the Library Fire Risk (Berkeley: University of California, 1979) by John Morris uses case histories to set forth risks incurred from lack of adequate fire protection, discusses preparedness and salvage techniques, and compares major types of automatic fire protection systems.

The proceedings of a two-day conference in May 1980 which followed Stanford University Libraries' recovery from a major flood caused by a burst water main will be reported in Disasters: Prevention and Coping, to be published by Stanford this winter. The resource describes the libraries' clean-up and restoration techniques; the project's procedures, organization, and costs; and the use of the STARS space simulation chamber at the Lockheed Missle and Space Company where over 50,000 soaked books which had been quickly frozen after the flood were successfully vacuum dried. Other topics include regional cooperation, environmental hazards, and physical plant factors that affect the safety of collections.

Kit #69, Preparing for Emergencies and Disasters, contains 15 documents (107 pages) including excerpts from committee reports, manuals, plans and case histories, and covers such areas a disaster preparedness, protecting people and property, and salvaging library materials. This Kit is the second resulting from the March 1980 SPEC Survey on Preservation. SPEC kits are available by subscription from the Systems and Procedures Exchange Center, OMS/ARL, 1527 New Hampshire Ave., N.W., Washington, D.C., 20036. Individual kits may be purchased—prepaid only—for $15.00 (U.S.), with a check made payable to "ARL Office of Management Studies." (Library members of ARL receive kits for $7.50.)

USES OF SPEC KITS

The Systems and Procedures Exchange Center (SPEC) is a clearinghouse operated by the Association of Research Libraries, Office of Management Studies that provides a central source of timely information and materials on the management and operations of large academic and research libraries. It facilitates the exchange of knowledge and documents through SPEC Kits, which are distributed ten times each year to ARL members and other interested libraries. The Kits include topically-arranged groupings of unedited primary source documents – selected for their value to administrators and decision-makers – that illustrate a wide range of alternative approaches to specific issues.

Kit documents come from general membership surveys and from selected libraries contacted directly by SPEC, and most Kits are produced within six months of surveys. The documents' value comes from their variety of ideas, methods, and solutions. They are not viewed as finished products, but rather as points of departure for a library's planning efforts and as stimulants to innovative approaches to problem-solving. As such, Kits do not present answers or prescriptions for any one library; instead they illustrate how selected ARL members are planning for or dealing with particular issues. The worth of any one Kit to a particular library will depend upon the specific topic covered and the library's stage of development in that area.

Materials are selected according to the following criteria:

- Presents an approach of potential value to administrators and decision-makers
- Timely, and dealing directly with the topic under consideration
- Probability of application of ideas or thinking to other library situations
- Illustrative of actual practice, rather than theoretical
- Understandable, readable communication

All together, the materials should provide a range of alternative approaches that complement each other, provide variety, and stimulate comparison and contrast.

Libraries can take advantage of the Kit compilations in a number of ways. Administrators can evaluate the assumptions, methods, and results of other libraries' approaches; compare and contrast them; and use the learnings in their own situations. Library staff members can use the kits as professional development and current awareness tools. Committees and task forces can use them to begin a review of current practices. And the Kits can identify other persons or places to contact for further information. Back-up files in the SPEC office also are available for loan to member libraries. In addition, SPEC will conduct on-demand surveys or analyses geared specifically for a single library.

EVALUATION

Kit Title/Number _____

1. Which uses did the library make of this Kit?

2. Please indicate how useful the Kit was for these purposes.

☐ Very Useful ☐ Quite Useful ☐ Somewhat Useful ☐ Not Useful

3. Do you have suggestions for this Kit or for future Kits?

(optional)

NAME _____

LIBRARY _____

PHONE _____

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ISSN - 0160 - 3582

PREPARING FOR EMERGENCIES AND DISASTERS
SPEC Kit #69 NOVEMBER - DECEMBER 1980

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DISASTER PREPAREDNESS

PREVENTION AND PREPARATION

It is obviously better to prevent an accident or an emergency than to have to deal with one. This is the purpose of the Cornell University Libraries' Checklist, Forms "A" and "B". These are to be turned in quarterly, due dates being the first days of September, December, March and June. It is the responsibility of the Emergency Planning Coordinators to fill out this list after having looked at the area of their responsibility to determine potential safety hazards. Examples of the Checklist forms appear at the end of this section. They should be sent to the Administrative Offices, Olin Library.

Inspections are also made by Life Safety Services. The inspector for each building should be given the fullest cooperation. While it often appears that recommendations for changes are picayune, the purpose of both our own Checklist and Life Safety Services' recommendations is to prevent danger to life and materials.

Every unit should have a detailed evacuation plan. This must be on file with the Committee on Safety and Emergencies. The Committee will review all plans and make recommendations for any changes they deem necessary. Such evacuation plans offer a systematic method of avoiding uncertainty and possible chaotic conditions when genuine emergencies occur.

It is important that a sizable number of staff members receive training in First Aid and Fire Fighting. The schools, set up by the Committee, will be routinely held, and each unit coordinator should actively consider participation in these courses. Due to lack of knowledge by a single individual, the improper use of a single extinguisher could turn a minor fire into a holocaust.

Each coordinator should encourage individuals to read this Manual so that 1) they see safety and emergency problems in perspective; and 2) they will be familiar with the "Emergency Action Steps." A copy of the Manual should be easily accessible in every department and steps should be taken so that it does not get lost or buried beneath piles of paper or in a desk drawer. When the Manual is needed in an actual emergency situation, its absence could have severely adverse results.

As they appear from time-to-time, booklets and other materials on safety and emergencies will be purchased by the Committee and made available to the coordinators and others within the library system.

A. Persons who have taken First Aid course in past three years:

_____

_____

_____

_____

_____

B. Persons who have taken Fire Fighting course in past four years:

_____

_____

_____

_____

_____

C. Accidents occuring during the past year with corrective action taken:

_____

_____

_____

_____

_____

Due Dates are: _____

Return this form to: Administrative Office, 201 Olin Library

COMMITTEE ON EMERGENCY

A. Mission

To be responsible for planning and preparing to meet effectively all emergency situations in the Cornell University Libraries.

B. Membership

1. The Committee shall be comprised of five (5) members, including the person in the Cornell University Libraries administration responsible for safety. He shall appoint the other members and act as chairman and appoint a person to act as chairman in his absence.

2. The appointed Committee membership shall represent at least one member from the following:

   Olin
   Uris
   Mann
   A college or department library

3. Members shall be from both professional and supporting staff but must be full-time employees.

4. The terms of office shall be two years with two (2) members being appointed each year. Terms of office expire June 30. Persons may be reappointed to the Committee.

5. A member shall be replaced on the Committee under the following conditions:

   a. At the request of the member.

   b. Two meetings missed in a year without prior notice (other than unusual extenuating circumstances).

C. Meetings

The Committee shall meet quarterly on the first Thursday of the month at 9:00 a.m. unless otherwise called. (September, December, March, June)

COMMITTEE
ORGANIZATION (Cont.)

D. Responsibilities

1. Preparation and updating of Cornell University Libraries' Emergency Manual.

2. Coordination of Cornell University Libraries' efforts with Life Safety Services, the Safety Division, and other appropriate Cornell University departments.

3. Preparation of an annual report dated June 30 to the Director of Libraries and to Life Safety Services as well as other reports deemed necessary.

4. Arrangement for training in first aid, firefighting, fire prevention, etc.

5. Appointment of Emergency Planning Coordinators for each building.

6. Review and approval, annually, of specific emergency plans as well as annual reports for individual buildings.

7. Holding "post mortems" of actual emergencies.

EMERGENCY PLANNING COORDINATORS FOR INDIVIDUAL BUILDINGS

A. Mission

To be responsible for planning and preparing to meet effectively all important emergency situations within a specific library.

B. Appointee

1. The individual may be a full-time professional or supporting staff member.

2. The term of office shall be two (2) years and individuals may be reappointed.

3. Appointment shall be by the Committee on Emergencies with the recommendations coming from the head librarian for the individual unit.

4. Primary qualifications to be considered in appointing coordinators shall be:

   a. Interest.

   b. Experience with emergencies.

   c. Understanding of the local system and situation.

   d. Potential longer-term employee.

5. It is expected that the coordinator and assistant shall take first aid and other appropriate courses.

C. Assistants

1. An assistant coordinator shall be appointed in the same manner as the coordinator.

2. Certain larger facilities may find a second assistant coordinator necessary.

D. Responsibilities

1. Develop and update emergency evacuation plans.

2. Check emergency equipment, fire extinguishers, and flashlights.

3. Search for potential safety hazards. (See the Checklist.)

4. Arrange for training in coping with emergencies.

5. List persons trained in first aid.

6. Submit annual report and quarterly "checklists" to Committee on Emergencies.

7. Submit other reports as advisable.

8. Report accidents to the Emergency Coordinator with corrective action taken.

CUL SAFETY CHECKLIST
Form A

Location: _____
Inspector: _____
Date: _____

When a problem condition exists, describe on Form B.

Check If Problem

Fire Extinguishers

_____ 1. Reading shows low pressure, discharged, or damage.
_____ 2. Type not labeled.
_____ 3. Not accessible.
_____ 4. Thought needed, but not there.
_____ 5. _____
_____ 6. _____
_____ 7. _____
_____ 8. _____

Fire Exits & Corridors

_____ 9. Blocked.
_____ 10. Glass broken on emergency exits.
_____ 11. Signs not visible.
_____ 12. Warped or sticking doors.
_____ 13. Locked doors.
_____ 14. _____
_____ 15. _____
_____ 16. _____
_____ 17. _____

Fire--Other

_____ 18. Absence of fusible links on book elevators.
_____ 19. Book conveyor or elevator door propped open.
_____ 20. Insufficient "No Smoking" signs.
_____ 21. Flammable liquids not properly stored (safety cans or storage cab.)
_____ 22. Non-flammable drape (public areas).
_____ 23. _____
_____ 24. _____
_____ 25. _____
_____ 26. _____

Electrical Equipment

_____ 27. Worn or exposed wiring.
_____ 28. Electrical equipment not grounded (all 3-prong outlets).
_____ 29. Open light sockets.
_____ 30. Burned out lights.
_____ 31. Defective equipment not tagged "Do Not Use."
_____ 32. Circuit boxes "hot" to touch.
_____ 33. No stands for label irons.
_____ 34. Overloaded sockets.
_____ 35. _____
_____ 36. _____
_____ 37. _____

Tripping and Other Impact Danger

_____ 38. Electrical cords in dangerous position.
_____ 39. Floor tiles need replacement.
_____ 40. Other potential tripping hazard.
_____ 41. Slippery floor.
_____ 42. Low overhead not marked.
_____ 43. Unstable furniture.
_____ 44. No safety feet on ladders.
_____ 45. Books or boxes dangerously piled (too high, etc.).
_____ 46. _____
_____ 47. _____
_____ 48. _____

Other

_____ 49. Insufficient emergency lighting.
_____ 50. Need for handrails (4 steps or more).
_____ 51. Safety shields not covering moving equipment.
_____ 52. Fans below 7 feet from floor without proper safety shields (1/2" opening).
_____ 53. Water pipes leaking.
_____ 54. Noise level suspected of being excessive.
_____ 55. Chipped or broken glass.
_____ 56. No first aid kit.
_____ 57. First aid kit supplies insufficient.
_____ 58. _____
_____ 59. _____
_____ 60. _____
_____ 61. _____
_____ 62. _____

CUL SAFETY CHECKLIST
Form B

No.	Location	Detail

The Committee and the coordinators are a very small segment of the overall safety and emergency system within the University and the city. At one time or another we will have dealings with the following organizations.

A. Safety Division, Barton Hall (6-5211)

This organization is our first source of help outside of the Libraries in any emergency situation. They are normally prepared to assist in any emergency including personal injury. They are trained in first aid, have emergency equipment and have contact with the city police and the various hospitals and clinics. They provide transportation to the hospital.

When calling them, describe the situation exactly and have some person stationed at the door to meet them when they arrive on the scene. Even the best verbal description may be inadequate to bring an officer to the location where the emergency exists.

Instruction and information sessions will be arranged by the Department on request on such topics as theft control, drugs, riots and takeovers, etc.

B. Life Safety Services, Toboggan Lodge

This organization works primarily in the area of prevention, training and compliance with state and federal laws. They make inspections and schedule fire drills. Like many other segments of the University they are under-staffed and should be given full cooperation.

C. University Health Service

1. Gannett Clinic. They will take care of emergency first aid for all persons, but they are established to deal primarily with students on a continuing basis.

2. Sage Hospital. Located between Seneca and State Streets, several blocks above downtown Ithaca, the hospital is for student care on a longer range basis.

D. Tompkins County Hospital

This is an accredited hospital with a 24-hour emergency room.

E. Fire Department

There is no University fire department. Fire calls are normally handled by the new No. 9 Station on College Avenue. The Safety Division contacts the Ithaca Fire Department when an alarm is pulled. More detailed information should be telephoned to the Safety Division to describe the exact location of the blaze and a person should be posted at the door to direct Safety Division personnel and firemen to the problem.

To summarize the roles of the organizations that we deal with outside Cornell University Libraries, the Safety Division plays the role of our first line of contact in an actual emergency. Only when something prevents their immediate reaction in an actual situation should the Fire Department, an ambulance or a doctor be summoned directly. Life Safety Services acts to help us to comply with legal requirements and to maintain safe conditions.

MEASURES TO AVOID OR MINIMIZE WATER DAMAGE

Water damage to library materials in book stacks, reading rooms, and offices can be avoided or minimized if certain precautions are taken routinely. Among these are the following:

1. Make sure that all windows are securely closed in advance of a storm and at the end of the day.

2. Request repairs if window panes are broken or cracked and if latches are weak or missing.

3. Do not store library materials or supplies on floors or under windows.

4. Move loose furniture (chairs, rugs, small tables, etc.) away from windows. This may avoid damage and will clear the area for swifter access to accumulated water.

This is the working draft which we used to deal with our water damage. It is subject to refinement and revision.

Disaster Preparedness Committee

This committee will meet at least two times a year to review and update all problems, procedures and information. Any changes of names, phone numbers or experts agreeing to help will be reported immediately to the chairman, who will then inform all members of the committee, so emergency information can be updated. Any particular problems will be brought to the attention of the chairman whenever they are noticed.

The committee will be sub-divided into two working committees: the Disaster Prevention Team and the Disaster Action Team.

A. Disaster Prevention Team

1. Checks equipment, manuals, lists and problem areas regularly, as set up by the team.
2. Keeps updated lists of appropriate name and phone numbers.
3. Locates sources of emergency supplies such as dehumidifiers, pumps, fans, freezer wrap, trucks, boxes, milk crates, cleaning supplies, fresh water and emergency generators.
4. Locates emergency facilities such as freezers, vacuum dry facilities, trucking firms, cleaning services, etc., and formulates agreements.
5. Informs local fire and police protection of plans and provides an emergency manual for their information, along with a list of names and phone numbers.
6. Prepares a list and solicits willingness of campus resource people such as plumbers, electricians, chemist, cleaning service, fire, police, plant services.
7. Distributes emergency packet and/or manual.
8. Disseminates plans and information to all library staff.
9. Obtains Peter Waters' manual Salvage of Water-damaged Library Materials for all committee members and those who might be involved in a water disaster.
10. Arranges continuing education for committee members.

B. Disaster Action Team

1. Notifies all concerned people as established, including fire, police, etc. If standing water is present, fire department should check first for hazards before library staff enters the area.
2. Appraises damage and sets up a plan for action.
3. Assigned person calls for supplies needed first, then facilities.
4. Assigned recovery director organizes effort, sets up communication, calls for volunteers through pre-established channels.
5. Temperature and humidity controls set up. Emergency generators set up if necessary.
6. Sets up all bibliographic control as deemed necessary.
7. Sets up teams with pre-trained leaders to deal with the wet books - taking off shelf, carrying, handling, packing, etc. Trains volunteers on site.

8. Arranges needed comforts such as portable restrooms, coffee, food, etc.
9. Wraps up initial disaster steps.

The whole Committee will meet when possible - as soon as possible - to evaluate the operation and make changes for future use. A report should be written up before memories fade too much. Letters of appreciation should be sent to everyone.

APPENDIX A

THE UNIVERSITY OF ROCHESTER
RIVER CAMPUS LIBRARIES

DISASTER PREVENTION AND PREPAREDNESS PLAN

Task Force on Disaster
Prevention and Preparedness
February 1980

INTRODUCTION

"A disaster . . . is an event whose timing is unexpected and whose consequences are seriously destructive." So reads the definition in the University of California Task Group on the Preservation of Library Materials' Disaster Prevention and Disaster Preparedness by Hilda Bohem. It is from this excellent booklet that the River Campus Libraries "Disaster Prevention and Preparedness" manual is adapted. We gratefully acknowledge its assistance.

Any disaster involving water damage, such as a flood or a fire, needs quick action because the wet materials will soon begin to mold and mildew. Thus the following plan focuses on water-related disasters as opposed to those which do not require the need for such quick action.

The basis of this plan is the establishment of two permanent teams for the River Campus Libraries: a Disaster Prevention Team and a Disaster Action Team. The goal of the former is to prevent disasters while the goal of the latter is effective action should a disaster occur.

DISASTER PREVENTION TEAM (DPT)

The Disaster Prevention Team shall be composed of:

Building Supervisor of Rush Rhees Library
Assistant Building Supervisor
One person from the Science Libraries
Two members of the Fire Squad
Head of Circulation
Assistant Director for Reader Services

The Disaster Prevention Team shall, as its name implies, have as its responsibility the prevention of disasters in the River Campus Libraries. To this end, it shall meet regularly (at least twice a year) to discuss potential problems, review problems that have come up, make recommendations, and see that corrective actions are taken. Because of his day-to-day responsibilities, the role and recommendations of the Building Supervisor are especially important to the Team. The Team should also have a clear understanding of the advisory and supportative roles other University divisions such as Security, Physical Plant, and Environmental Health and Safety have in relation to its charge.

The existence and purpose of the Team should be publicized in Administrative Calendar and Notes. Staff should be encouraged to bring potential problems to the attention of the Team.

DISASTER ACTION TEAM (DAT)

The Disaster Action Team shall be composed of:

Assistant Director for Technical Services

Building Supervisor of Rush Rhees Library

Several Bibliographers (on a rotating basis so that all eventually serve and are thus knowledgeable about the Team and its function)

Member from the Science Libraries

Record Keeper (from the Circulation Department)

Conservator (an expert in paper chemistry)

This team is responsible for preparedness planning for possible disasters, quick action during disasters to minimize the affect, and post-disaster assessment.

Pre-Disaster Preparedness

1. Prepare, keep up to date, and distribute to its members, the Library Administrative Group (LAG), and Security a list of the DAT membership (with telephone numbers) arranged in order of their priority to be called in an emergency. Whenever updated, the copies of the superseded list should be destroyed.

2. Provide each member of the DAT, each bibliographer, and each member of the LAG a copy of Peter Waters, Procedures for Salvage of Water-Damaged Library Materials to read and keep on hand.

3. The Library Bookkeeper shall, under the direction of the DAT, line up sources for each of the following:

List A

Book trucks
Drying space
Refrigerated trucks, if readily procurable; or regular trucks
Deep freeze facilities
Vacuum or freeze drying facilities
Plastic crates, such as milk carton crates
Paper towels
Unprinted newspaper
Thymol and disinfectants
Plastic bags or freezer wrap
Portable fans
Dehumidifiers
Moisture meters
Hygroscopes or sling hygrometers
Portable generators
Portable electric pumps
Heavy duty extension cords
Gloves (plastic and work)
Marking pens
Pallets
Forklift

In cases of outside facilities and supplies, the library should enter into written agreements regarding the availability of the facility or item. A copy of the list of facilities and supplies with information on the availability of each item (where, what quantity, whom to call, etc.) shall be given to each DAT and LAG member.

4. Large quantities of the following supplies should be kept in a storage area under the supervision of the Building Supervisor:

List B

Rolls of plastic sheeting
Shears
Paper towels
Unprinted newspaper
Mops and buckets
Portable electric sump pump
Heavy duty extension cords
Plastic waste baskets
Thymol
Rubber boots
Gloves
Sponges
Methyl alcohol

5. Emergency supplies of the following items should, as appropriate, be kept in each department in the library:

List C

Flashlight
Plastic drop sheets
Terry cloth toweling
Shears
Paper towels

6. Each area of the collection shall be assigned to a bibliographer so that during a disaster that person can work closely with the DAT regarding priorities for salvage. Each bibliographer shall have prepared a plan of priorities for his area which should be kept on file. Each DAT and LAG member shall have a copy of the list of bibliographers and their areas. Whenever updated, the copies of the superseded list shall be destroyed.

7. The DAT shall have regular meetings to review plans, discuss problems, hear outside speakers, and review the new literature in the field.

8. The DAT shall publicize its function and membership through Administrative Calendar and Notes so that staff members are aware of its existence and purpose.

Disaster Operations

1. Whoever was initially called regarding the disaster shall call the DAT together as well as the bibliographer(s) of the area involved. From this point, the Recovery Director is in charge.

2. Proceed into the disaster area with caution. If there are any doubts as to the safety of the area, have Physical Plant check them out.

3. The Recovery Director with the assistance of other DAT members and bibliographers shall assess the damage as to type and amount. Upon this assessment will rest the decisions as to recovery procedures.

4. The Recovery Director shall establish a central command post, probably the library office.

5. The Library Bookkeeper or a member of the DAT shall begin telephoning for the necessary supplies and facilities.

6. The University Public Relations Department shall coordinate contacts with the news media. The staff, the University community, and the outside media will all need to be kept updated on the disaster and the recovery operations.

7. Physical Plant shall attempt to lower the temperature and humidity of the area affected if it is not possible to very quickly remove the materials affected.

8. Teams of appropriate persons (staff, students, and/or volunteers) as the Recovery Director has decided upon shall be formed to carry forth the necessary removal of materials.

9. The record keeper shall keep records of what is being removed from the area and its destination.

Post-Disaster Assessment

1. Determine what went right.

2. Determine what went wrong.

3. Disaster Preparedness Plan should be changed where necessary.

4. Make a written report of the disaster and salvage operations for the record.

5. Send letters of appreciation and thanks to all who helped.

A moderate amount has been written on library disaster preparedness, prevention and procedures. Some of it is quite useful, some less so.

Beside the University of California booklet upon which this manual is based (Hilda Bohem, Disaster Prevention and Disaster Preparedness, 1978 23p.) and the Peter Waters booklet (Procedures for Salvage of Water-Damaged Library Materials, 2d ed., 1979) which is mentioned in this manual, it is recommended that the DAT and all others on the library staff interested in the subject read the articles in the September and November 1979 issues of College and Research Libraries: Philip D. Leighton, "The Stanford Flood," and Sally Buchanan, "The Stanford Library Restoration Project." These articles provide a thorough discussion of a water disaster in a library.

PROTECTING PEOPLE AND PROPERTY

BEST COPY AVAILABLE

Exerpt from

PROCEDURES FOR EMERGENCY SECURITY ACTION
MAIN AND BRANCH LIBRARIES

I. General

A. The University Librarian is responsible for making the decision to evacuate the main library in event of an emergency which threatens our users, staff, the collection, or the building and grounds.

B. In event the University Librarian is absent during an emergency situation which might require evacuation this decision is delegated in order to the following Assistant University Librarians:

1. Public Services
2. Technical Services
3. Collection Development

C. In certain situations it may become necessary to evacuate one or more of the Branch Libraries. Evacuation may be conducted in conjunction with or separate from the Main Library and may be instituted by the following:

1. Upon order by the University Librarian or authorized alternate in his absence
2. Upon order of the Branch Libraries building security coordinator
3. If an immenent threat or emergency affects a Branch Library directly the Branch Librarian may evacuate the library on his or her own initiative

D. Branch Librarians are requested to develop their own evacuation procedure and forward one copy to the University Librarian. Emergency evacuations of Branch Libraries will be reported to the University Department of Public Safety, Extension 3254 and the University Librarian, Extension 7640, as soon as possible.

II. <u>All Personnel</u>

A. General Instructions

1. Familiarize yourselves <u>NOW</u> with the location of the nearest fire hose and fire extinguisher to your place of duty. While this equipment has been provided for use by building occupants you are not expected to jeopardize yourself in its operation. (Caution: None of these hoses or extinguishers are safe to use on fires of electrical origin.)

2. Familiarize yourself <u>NOW</u> with the location of the nearest local fire alarm (Red boxes set into the walls throughout the library with pull

type handles used to alert persons in the immediate vicinity of a fire) to your normal place of duty.

3. Familiarize yourself NOW with the location of the nearest fire exit or regular exit to your place of duty.
4. In case of fire or extreme emergency your signal to evacuate the building will be the sounding of all fire alarms throughout the library. Leave the Building Immediately via the nearest exit encouraging anyone you see to exit immediately. Remain at least 300 feet from the building and do not congregate on roads or pathways.
5. The signal for emergency evacuation in all other cases will be the flashing of all building lights for a period of a few minutes. If you have not been assigned specific responsibilities under provisions of this plan or by your Department Head leave the building immediately by either Lantern or Plaza exit taking all personal items brought into the building with you. Do not use fire exits unless fire alarm sounds.
6. In event of an emergency evacuation other than by fire report to Parkes Hall unless directed otherwise by your supervisor and remain until recalled or until the end of your regularly scheduled work period. Your supervisor will advise you of the security status and reopening. Northwestern Radio Station WNUR will also pass on pertinent information regarding reopening.
7. Unless notified otherwise report for work at the normal time the next work day following an evacuation.

B. Special Instructions

1. Should you be the first person to observe a fire immediately alert those persons in the vicinity by sounding the local alarm or by voice and call the Fire Department, Extension 3355, giving them your name and the exact location of the fire. Example--"This is Mary Doe, Northwestern University Library, 1935 Sheridan Road. I want to report a fire on the 3rd floor South Tower." Answer any additional questions the fire department may desire.
2. If possible, attempt to have a fellow employee alert the Circulation Desk simultaneously with notification of the fire department at Extension 7636, 7633, or 7634 where all fire alarms will be sounded signalling immediate evacuation. If alone with no

assistance notify the Circulation Desk immediately after notifying the fire department.

3. If time permits and you do not jeopardize your own safety report the fire to the administrative office, Extension 7640, 7668-69, and the University Department of Public Safety, Extension 3254.

4. If you are the first person to receive a bomb threat or other threat to the safety of library personnel, users, the collection, or buildings and grounds you are requested to comply with the following immediately:

   a. Written communication

      (1) Notify the University Librarian or in his absence one of the Assistant University Librarians <u>in person</u>.

      (2) Do not handle the correspondence or envelope any more than possible but place both in a larger envelope so as to avoid smearing any existing finger prints and caution others who may handle the correspondence.

      (3) Do not tell other employees or persons of the threat.

      (4) To take all such threats seriously and report them immediately.

   b. Telephonic threats

      (1) <u>Keep calm</u>. Do not get excited or excite others.

      (2) Note exact time call was received and terminated.

      (3) Attempt to get down in writing the exact words of the caller. Ask him to repeat. If a bomb threat and caller does not give you a location or expected time of detonation try to get this information from him.

      (4) Make a mental note of any other foreign sounds you hear plus your impressions of anything that might assist in identifying the caller. Put it all in writing as soon as time permits and submit written report to the University Department of Public Safety.

      (5) Do not tell a co-worker or library patrons of the threat. Rumor, fear and resultant panic are often more dangerous than the threat.

*(6) Call the Northwestern Department of Public Safety, Extension 3254 and report the threat. Be sure to give your name, department, and phone number.

(7) Notify the University Librarian or in his absence one of the Assistant University Librarians in person.

(8) Follow any instruction received by either office.

*NOTE: The University Department of Public Safety has the responsibility for the investigation of all suspected bombs and reports of bombs being placed on University property and have a Standard Procedure for handling bombs and bomb threats. Staff volunteers to accompany Department of Public Safety search teams are requested to give their names to Mr. Ireland.

Minor disturbances and violations of library regulations may be dealt with in the following manner:

Whenever any library employee observes abuse of any of the library's facilities or infraction of any regulations, he should act as judgment and the situation require. Usually a polite suggestion to the person observed will suffice. If no cooperation is received, however, the library employee should identify himself and make some attempt, still in a friendly manner, to ascertain the identity of the other person(s) involved, whether they be student, faculty, or another library employee.

The situation may then be reported to Mr. Ireland (ext. 7668), who will decide the appropriate further course of action. Mr. Ireland can best respond, however, if the reporting library employee has first attempted to deal with the situation in the manner outlined above. The responsibility for maintaining standards of conduct and use of the library's facilities rests not upon one officer of the library, but upon all of us.

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In the event of any action which obstructs readers from using the Library's resources and services or which may result in damage or destruction of University property, the librarian in charge in the immediate area affected should demand that the action cease. If it then ceases the matter should be reported to the University Librarian, or any of the Assistant University Librarians who will then in turn report to the University Administrative officials (the Dean of Students and the University Security Office).

If the disruptive action does not cease, the librarian in charge should report as above and should then close the unit or department announcing the fact to those taking part in the disruptive action. (Use this language, or words to this effect: "This is a disruption of library service. By this action you are obstructing the functioning of the library and forcing us to close down. This department (section, etc.) is now closed.") He should remain on the scene until the persons causing the disruption have departed, or until the Security officers have arrived.

The librarian in charge should attempt to secure the identification of the persons involved in every case.

If there is a likelihood that the disruption should spread to other units or departments as yet unaffected, precautions should be taken by closing off these areas, for example, the stack area, the entire second floor, units on the lower level, or any others that can be locked off. The decision to close off other areas should be made by the Assistant University Librarians or department heads.

JOHN CRERAR LIBRARY
POLICY AND PROCEDURE MANUAL

Chapter: II
Section: C
Effective Date: 7-1-7
Distribution: Staff
Supersedes: _____

Subject: Emergency Situations

Index Terms: Accidents, Bomb Threats, Building Evacuation, Fires, Illness, Weather Emergencies

POLICY

It is the policy of the Library to have a plan of action to meet any emergency situation which might arise.

PROCEDURES

1. Building Emergencies.

a. Fires. When an employee discovers a small fire which does not present a personal danger to him, he should alert his nearest fellow employee, asking him to summon aid. He should then attempt to put out the fire by using the fire extinguishers located throughout the building. (See p. 4-5 for diagram of building, showing locations.) If the fire has reached serious proportions by the time it is discovered, the employee should quickly leave the affected area, closing all doors behind him and warning all personnel in the area. He should then immediately notify the city fire department and the IIT campus police. City firemen may be summoned by telephone, using the emergency number 911. Campus police may be called by dialling 85-0 and reporting the fire to the operator. The operator should be told that there is a fire in the Crerar Library building, and then the caller should stand by the telephone for further instructions or questions from the operator.

In case of a serious fire, a complete evacuation of the building may be necessary before the arrival of firemen or law enforcement officials. This evacuation should be authorized and supervised by the senior administrative officer of the library present at the time. An evacuation should always be implemented if the fire is not extinguished immediately, or if smoke and heat are present in amounts sufficient to have a potential for panic. Whenever possible, all persons should be directed to leave the building by the front door on the east side of the building. If this is not possible or appears to be unsafe, the exit at the northwest corner of the building should be used. Accompanying diagram on p. 4-5 shows location of escape routes and exits. A return to the building after a fire should be permitted only after authorization by the city fire department or the campus police.

b. Tornadoes, Severe Storms. When tornadoes or other dangerous weather conditions are announced as present or are sighted, the Administrative Office of the Library should be notified immediately. If there is not a

clear and imminent danger to the occupants of the building, the senior library officer will contact the IIT campus police and ask their advice and aid. If the danger is clear and imminent, the library official will evacuate the upper floor of the library since the glass walls would present a possibly extremely dangerous situation. All building occupants should be directed to places of safety near exterior walls on the lower floor, but away from windows and doors. These emergency measures should remain in effect until the officials of the library and/or the campus police agree that the danger is no longer present. If advisable because of the prolonged and continuing nature of the weather emergency, the occupants of the building may be advised to go home or to proceed to other places of greater safety.

In cases of severe winter storms involving ice and snow, the senior library official may close the library, suspend service, and send employees home if in his judgment the storm warrants such actions. When the library is already closed (as at night, or on holidays or weekends) and the Librarian decides that it should remain closed because of an emergency situation, he will notify the Associate and Assistant Librarians, who will in turn notify the personnel in their respective divisions. Notification will normally be by telephone, and up to date lists of staff telephone numbers will be provided for this purpose. Possible emergency situations prompting this action might be severe weather, public riots or unrest, strikes of transportation or other vital services personnel, etc.

c. Bomb Threats. If a bomb threat is received in the library, the telephone operator should follow the instructions given in the "Bomb Threat Checklist for Operators". A copy of this document is kept at the switchboard. At the conclusion of the call, the administrative office of the library should be notified immediately, and they in turn will notify the IIT campus police. The campus police will make decisions regarding building evacuation, etc. after contacting the IIT Administrative Officers. If necessary, the campus police will use the standard building evacuation procedures as outlined in IIT Memorandum of 21 March 1977: "Decision to Evacuate Building". In all cases of bomb threats by telephone or by mail or other methods, the John Crerar Library will operate under the control and advice of the IIT campus police unless and until other law enforcement officials take jurisdiction.

d. Disruptive or Unwanted Persons in Building. If a person creates a disturbance in the library, he should be warned to desist by the responsible librarian or administrative officer in the area where the disturbance is taking place. If he does not comply, he should be asked to leave the building. This course of action also applies to very young children who are unaccompanied by adults and who are not using the library properly. In any case where the offender does not leave the building when asked to do so, the matter should be explained and turned over to the guard at the front door of the library. He will take such action as he feels appropriate under the circumstances. In all cases where violent behavior is present or threatened, the door guard should be notified and put in charge of the situation.

2. Personal Emergencies.

a. Illness of Employee or Patron. If while in the library a staff member or patron is incapacitated by serious illness such as a heart attack, stroke, etc., the area supervisor should notify the building guard and then administer appropriate first aid measures. The building guard will arrange for transportation of the person to the hospital. In cases of less serious illness, the supervisor will consult with the ill person and decide if the employee should be allowed to go home, should be taken home or to a doctor of their choice, or should go the hospital emergency service.

b. Accident or Injury to Employee or Patron. In case of an accident or injury in the library, the responsible area supervisor should decide if minor first aid measures are appropriate (there is a first aid kit in the Administrative Office) or if professional medical care is needed. The building guard should be notified in cases of serious injury, and he will arrange for transportation of the person to the IIT Medical Office or to the hospital as appropriate. All accidents and injuries should be fully documented for the records of the library.

INTRODUCTION

This Emergency Manual is a loose-leaf guide to handling emergency situations within the Cornell University Libraries. It has been developed and published by the Committee on Safety and Emergencies of the Cornell University Libraries and will be kept up to date.

The Committee on Safety and Emergencies is a direct outgrowth of a specific emergency situation at Cornell University. On the opening day of school in 1970, the basement floor of the Engineering Library was found to be flooding. Had this Manual existed, the situation might have been handled more rapidly and efficiently.

The Committee is to be "the organization primarily responsible within C. U. L. for rationally planning and preparing to meet effectively all emergency situations." The original Committee felt that one means of accomplishing its mission would be to publish an emergency manual to be kept readily available in each department and also distributed to individual employees.

The Manual consists of five sections. The first is entitled "Emergency Action Steps (Alphabetical Order)." When an actual emergency occurs, individuals should use the step-by-step procedures shown in this section to minimize danger to life and property.

The remaining sections of the Manual deal with organization of the Committee, the Emergency Planning Coordinators in each building, the methods of prevention and preparation for emergencies, and information on organizations outside the Cornell University Libraries which may become involved when emergency situations occur within the Libraries.

Development of the Manual was greatly facilitated by the Division of Life Safety Services and the Safety Division. Special acknowledgement goes to Alexander L. McCord, Lt. Randall Hausner, Sgt. Theodore Pless, and to the late David Sellers, Chairman of the Committee, who initiated the idea of the Manual, formed the committee and carried the project nearly to its conclusion.

The Committee on Safety and Emergencies
April 1976

Margaret Carey
Arthur Kulp
Pearl Miller
Robert Moore
Margaret Oaksford
Barbara Shepherd
Richard Strassberg

IMMEDIATE ACTION

A. Rabies Danger -- Try to prevent repeated attack.

There may be danger of rabies. Try to prevent other people from being bitten. Rabid animals may be either hyperactive or may display some signs of paralysis.

B. Call Safety Division -- Give the following information:

1. Description of the incident including description of the animal and its behavior.

2. Exact location (state "Library", floor, room).

3. Name of person who was bitten.

4. Your name.

5. Obtain name of animal's owner if possible.

C. Contain Animal -- If safe to do so.

If possible have the animal isolated. This could simply mean evacuating a room and closing a door.

D. Animal Removal Service Available

The Safety Division upon request will send someone to remove animals. Library employees may, at their own risk, remove from a building animals which have not bitten a person. However if the animal appears even slightly vicious or diseased, call the Safety Division for assistance. Do not attempt to remove an animal which appears dangerous.

SAFETY DIVISION TELEPHONE 6-1111

IMMEDIATE ACTION

A. Get Maximum Information

Keep caller on the telephone if possible, and WRITE DOWN as much of the following information as you can obtain.

1. Exact location (state "Library", floor, room).

2. What time will the bomb go off?

3. What kind of bomb is it?

4. In what part of the building is it likely to be?

5. Any other information which might prove useful in determining location of bomb or identity of caller.

B. Contact Safety Division

1. Pull the fire alarm only if explosion appears imminent. The emergency plan used for clearing the building for fires may be used in clearing the building in a bomb threat situation. In addition to the standard procedure, have people move away from the building.

2. Report the bomb threat IMMEDIATELY.

It is important that the Safety Division know immediately that this is a bomb threat rather than a fire. Your written notes will help them to determine what additional measures should be taken. Report the following:

a. "The fire alarm signal at _____ Library is actually a bomb threat."

b. Describe threat in detail, especially claimed time of explosion.

c. Give your name.

d. Meet Safety Division officers at the main entrance, once more identifying yourself.

SAFETY DIVISION TELEPHONE 6-1111

C. Searching for Bomb

It is not your responsibility to risk your life or that of any other staff member by searching for a bomb. You have the right to refuse the order of a member of the Safety Division or any of the Libraries' staff if asked to search. (At an individual's own risk he may volunteer to look for suspicious objects. This may prove very helpful since Libraries' staff can more readily spot unusual circumstances due to familiarity with the building.)

D. Notify Libraries Administration

Call the Cornell University Libraries Administration at your first opportunity (6-3322). If there is no answer, call the Director at home or a member of the Director's Council (see back cover).

IMMEDIATE ACTION

A. KEEP CALM

You help no one by panic and you may panic others.

B. Do Not Defend the Library

It is not your responsibility to act as a police officer. Resistance may only increase the destruction and bring about bodily harm to staff and patrons. It may also increase destruction of library materials.

C. Call the Safety Division -- Discreetly

This should be done if a large crowd gathers, whether the takeover is an actuality or simply appears to be possible. Give the Safety Division the following information:

1. Exact location (state "Library").
2. Describe the circumstances as clearly as possible.
   a. Where are the people?
   b. Is damage being done?
   c. Is the building occupied?
   d. Does the crowd seem rational and organized?
   e. How many people are there?
   f. Is there an obvious objective?
3. Give your name.

D. Notify the Libraries Administration

Also call the University Libraries Administration (6-3322) giving exact information. The responsibility for decisions from that point will rest with the Administration and the Safety Division. If there is no answer in Administration, call the Director at home or a member of the Director's Council (see back cover).

SAFETY DIVISION TELEPHONE 6-1111

E. Talk

If there appears to be a rational leader, a supervisor should talk to him in order to learn the purpose(s) of the takeover and any other relevant information. However if it is a mob, acting irrationally, your first responsibility is for your own life and safety; your second responsibility is for the lives and safety of others in the building.

F. Evacuate the Building -- By Asking People to Leave.

Use reasonable procedures to evacuate the building if there appears to be any danger to any individual. A discussion with the leader of the takeover may prove useful in effecting a peaceful, orderly evacuation.

IMMEDIATE ACTION

A. Unconscious Person

Do not presume death has occurred.

B. Call Safety Division Immediately

Telephone Safety Division, give them the following information, and remain on the telephone until released.

1. Description of the situation.
2. Exact location (state "Library", floor, room).
3. Your name.

C. First Aid

1. Appropriate emergency first aid should be given by a trained person.
2. Look for "Medic Alert" type tag with standard physician's symbol. This may be located around the arm, neck or in a wallet. This would indicate special medical problems.

D. Notify the Libraries Administration

The appropriate Director should be notified (see back cover).

E. Death

If death is confirmed the Safety Division will notify the appropriate University Office. That Office will notify the next of kin.

SAFETY DIVISION TELEPHONE 6-1111

DEATH OR SEVERE
MEDICAL PROBLEMS (Cont.)

PRECAUTIONARY MEASURES

Staff members with serious medical problems should be encouraged to notify their supervisors and co-workers of the medical problem as well as any standard emergency treatment related to that problem.

IMMEDIATE ACTION

A. Stay Calm

DO NOT GET INTO AN ARGUMENT. Speak calmly and firmly to the person involved.

B. Listen

Try to accept the person's point of view.

C. Violence Potential

Be alert to the possibility of violence. Telephone the Safety Division (6-*1111*) and give the following information, if known:

1. The person's name.
2. The symptoms.
3. The precise location of the person (state "Library", floor, room).

D. Be Patient

Gain as much time as possible since a person's perception may be only temporarily distorted.

GENERAL INFORMATION

A. Causes

Psychiatric crises can be caused by many things ranging from scholastic pressures to drug withdrawal.

B. Actions

Psychiatric antagonism may be either directed against one's self or someone else, suicide and homicide being the most extreme forms.

C. Your Attitude

Library personnel should always be pleasant, considerate, helpful and understanding. A mentally disturbed individual may only require a slightly abrasive experience to reduce him to desperation.

SAFETY DIVISION TELEPHONE 6- *1111*

IMMEDIATE ACTION

A. Reassurance

If a person is stranded in an elevator, it is important for the library's staff to give reassurance until help can be secured.

B. DO NOT ATTEMPT TO FORCE OPEN THE DOORS.

C. Telephone for Help

1. Library units which report mechanical problems to the Olin Shipping Room (6-3829) should call that location weekdays during their normal operating hours. In the event that no answer is received from the Shipping Room, the Chilled Water Plant (6-4322) should be contacted. Elevator Company personnel are on campus during the day, and are no more than 20 minutes away at all times.

2. Other units should call their maintenance supervisor. If no answer, call Buildings and Properties (6-4739).

3. If difficulty is encountered in getting help, call the Safety Division.

GENERAL INFORMATION

A. Maintenance

The maintenance of all library passenger elevators is the responsibility of the Elevator Company. A planned maintenance program is routinely carried out by their personnel.

B. Keys

Library employees normally do not have keys to the elevators or to the elevator motor area.

SAFETY DIVISION TELEPHONE 6- *1111*

IMMEDIATE ACTION

A. KEEP CALM

You help no one by panic and you may panic others.

B. Get the People Out--Avoid Use of Elevators

1. Pull the fire alarm. (Safety Division and Life Safety Services will automatically be alerted.) Nearest locations are: _____

_____

2. Nearest fire exits are: _____

_____

3. Follow emergency evacuation plan for your library (to be developed by each unit and inserted behind this section). If safe, physically check all areas of the library for people, including:

a. Faculty studies.
b. Restrooms.
c. Lounges.
d. Stairwells.
e. Elevators.

4. If you feel you can fight the fire, (e.g., a small one in a wastebasket) use the nearest fire extinguisher providing it is the right type. See the next page for "Instructions for Your Fire Extinguisher."

5. If safe, close all doors and windows on your way out. Leave lights on and report to the designated person that everyone is out.

6. These procedures should be followed whenever the fire alarm sounds. Do not assume it is a drill.

C. Call Safety Division Immediately

1. Call the Safety Division (6-*1111*). Report: Exact location of fire. (State "Library", floor, room).

2. Meet firemen, Life Safety Services or the Safety Division at the entrance of the building.

SAFETY DIVISION TELEPHONE 6-*1111*

D. Notify the Libraries Administration

Call the Libraries Administration (6-2322). If no answer, and there is damage to materials or catalogs from fire or water, call the Director at home or a member of the Director's Council (see back cover).

INSTRUCTIONS

FOR YOUR

FIRE EXTINGUISHER

NAMEPLATE SYMBOL	TYPES OF FIRES
	FOR WOOD, PAPER, CLOTH, TRASH AND OTHER ORDINARY COMBUSTIBLES.
	FOR GASOLINE, GREASES, OIL, PAINTS AND OTHER FLAMMABLE LIQUIDS.
	FOR LIVE ELECTRICAL EQUIPMENT.

THE NAMEPLATE ON YOUR EXTINGUISHER SHOWS THE SYMBOLS DESIGNATING THE TYPES OF FIRES ON WHICH THIS EXTINGUISHER SHOULD BE USED. READ IT CAREFULLY. DO NOT USE ON CLASS D FIRES (COMBUSTIBLE METALS, E.G. MAGNESIUM).

A. <u>An Introduction to Your Fire Extinguisher</u>

Fires come in all sizes but only three basic types. They are known as Class A, Class B and Class C.

1. Class A fires are those involving paper, cloth, wood, upholstery and other ordinary combustibles.

2. Class B fires involve gasoline, oil, grease and other flammable liquids. Water should not be used on this type of fire.

3. Class C fires involve electrical equipment and here again water should not be used because of the danger of severe electrical shock.

Your extinguisher is basically a storage container for a special fire extinguishing agent. When the extinguisher is operated the agent is expelled by a continuous stream of pressure stored in the container. Do not incinerate by throwing into a fire; it may explode.

SAFETY DIVISION TELEPHONE 6- *1111*

Never try out the extinguisher to see if it functions unless you are prepared to completely recharge it or replace it immediately. A partially used extinguisher will quickly lose all its pressure and become useless in a few hours.

B. Operation

Operation instructions and cautions for this extinguisher are printed on the nameplate. Read and understand these before a fire occurs.

Most types of fire extinguishers discharge their contents in 8 to 25 seconds depending upon size. It is therefore important that the extinguisher be aimed correctly at the fire before it is operated.

Be prepared for the discharge. There will be a slight backward reaction as the agent is being discharged from the nozzle or horn.

Stand 6 to 10 feet away from the fire and aim at the base of the flames with a side to side sweeping motion across the width of the fire. Move closer as the fire is extinguished. You are too close if the discharge disturbs the burning material. If possible, keep the wind behind you. After the fire appears to be out, continue to watch for "flashbacks" and extinguish them immediately.

Have the extinguishers recharged as soon as possible.

(Note: The preceding text has been excerpted from the Owner's Instruction Manual, Amerex Corp., Trussville, Alabama.)

IMMEDIATE ACTION

A. Trained Persons

Persons trained in first aid in this library are:

6-	6-
6-	6-
6-	6-

B. First Aid

Get the assistance of someone in your area who has taken first aid training courses. If you do not know how to administer first aid, you may do more harm than good.

C. Call Safety Division

If someone has been injured and is in need of emergency help, call the Safety Division (6-*1111*). They have mobile equipment. Report:

1. The problem.
2. The exact location (state "Library", floor, room).
3. Your name.
4. Have someone meet them at the door.

GENERAL INFORMATION

A. Course

First aid courses are offered by the Tompkins County Red Cross. It is recommended that if you have not taken a Red Cross First Aid course, or if it has been some time since you have taken such a course, you avail yourself of the opportunity.

B. First Aid Kits

First Aid kits must be maintained in a ready state by a person in the department charged with this responsibility.

SAFETY DIVISION TELEPHONE 6-*1111*

C. Good Samaritan Law

New York State law protects "Good Samaritans" from lawsuits, only if they are physicians or nurses. You may be liable for a negligence suit if you help. If you do nothing, you are not liable.

FLOODING

IMMEDIATE ACTION

A. Stay Out

DO NOT ENTER THE FLOODED AREA UNTIL BUILDING AND PROPERTY ELECTRICIANS HAVE DISCONNECTED THE ELECTRICITY--THERE IS EXTREME DANGER OF SHOCK.

B. Guard

Post a staff member at the entrance to the flooded area to keep out unauthorized personnel.

C. Telephone

1. Safety Division (6-*1111*).
2. Buildings and Properties (6-4739, nights 6-4322).
3. Cornell University Libraries Administration (6-3322). If no answer, call the Director at home or a member of the Director's Council (see back cover).

D. Salvage

Find location to which water-soaked books and records can be transferred. It should:

1. Be adequately ventilated.
2. Have easy access to exterior of building, be on the ground floor or be serviced by an elevator.
3. Be entirely isolated from other library collections and in an area containing no rugs or other floor coverings that might be damaged by water.

FOLLOW-UP

A. Pumping

Have the water pumped out by the fire department with the advice of Buildings and Properties.

SAFETY DIVISION TELEPHONE 6-*1111*

FLOODING AND
WATER LEAKS

B. When the area has been declared safe by the Safety Division, remove the library material in the following order:

1. Dictionary catalog if endangered.

2. Shelf list if endangered.

3. Undamaged library material in the immediate vicinity of the flooding (try to remove and keep in proper shelving order).

4. Damaged library material.

C. Beyond standing water-soaked books on their bottom edges and emptying card catalogs of accumulated water, do not attempt further emergency treatment but await further instructions from assigned library personnel.

WATER LEAKS

IMMEDIATE ACTION

A. Move materials out of the area affected.

B. Cover affected area with plastic and/or wastebaskets.

C. Contact appropriate personnel in each building(i.e., if Olin or Uris are affected, report the problem to Shipping Room, 6-3829).

SAFETY DIVISION TELEPHONE 6-1111

IMMEDIATE ACTION

A. Suspicion of Toxic Fumes

1. If the presence of possibly toxic fumes is suspected, clear the area.

2. Call Safety Division (6-1111).

   a. Describe the situation.

   b. Give location (state "Library", floor, room).

   c. Give your name.

B. Treatment

Remove any person showing symptoms of a problem from the contaminated area. If necessary, give mouth-to-mouth resuscitation and/or treat for shock.

GENERAL INFORMATION

A. Inspection

Problems of fume danger can be partially avoided by regular and routine inspection of the library unit. Look for various types of mechanical equipment, stored chemicals, etc.

Particular care should be taken of the air intakes outside of buildings. Gasoline motors can have their exhaust fumes sucked into the building.

B. Fumigation

A potential source of danger is the fumigator in Olin Library's Shipping Room and at some other locations. This device must be operated only by well-trained and authorized personnel.

SAFETY DIVISION TELEPHONE 6-1111

IMMEDIATE ACTION

A. Watch for Allergic Reactions

1. The reaction may come on quickly or slowly. When someone has been bitten, look for signs of difficulty in breathing, or severe chest pains, severe swelling or blotchy appearance in the area of the sting.

2. Ask the person bitten if he has had previous bad reactions.

B. Call the Safety Division

If an allergic reaction appears to be taking place, call the Safety Division (6-*1111*) immediately. Give details on location and cause of problem. Describe the reaction. The Safety Division has emergency equipment.

C. First Aid (trained personnel only)

For even mild or normal reactions.

1. Give black coffee.

2. Apply ice or cold water on the bite.

GENERAL INFORMATION

A. Encourage all staff with known allergic reactions to know what should be done for them and carry any medication that is necessary.

B. The most severe reactions may be caused by stings directly into the bloodstream and stings of the mouth or throat tissue. In the latter case, the throat may close and the person cannot breathe.

C. Generally, if a person has been bitten it might be suggested he call a doctor if he has any concern whatever.

SAFETY DIVISION TELEPHONE 6-*1111*

GENERAL INFORMATION

A. Causes

The causes of problems with machinery and equipment fall into four categories.

1. Fire.
2. Shock.
3. Mechanical crushing.
4. Fumes.

Do whatever is necessary in terms of first aid, fire extinguishing, etc. as an immediate measure.

B. Inspection

Routine inspection of the condition of equipment is part of the Emergency Checklist Form. In certain cases, inspection can be made only by authorized personnel. In the case of air conditioning or other heavy equipment, Buildings and Properties personnel will be required.

C. Flashlights

Inspection of flashlights should be made monthly.

IMMEDIATE ACTION

A. Safety

In the case of a power failure, the first concern of the staff is for the safety of the people in the library. If the power failure is prolonged, standard evacuation procedure should be followed. Elevators, washrooms and stairwells should be checked for stranded persons. Restrooms below ground level should be locked, and all stacks should be closed once people have been evacuated.

B. Call the Safety Division

The Safety Division is automatically notified by the fire alarm. Call them (6-*1111*) and describe the situation.

C. Operations

If the failure occurs during the daytime hours, there may be sufficient natural light to continue library operations. However, in many cases during daylight, and in all cases at night, the library should be evacuated if the failure is expected to continue for an extended period of time.

D. Extended Failure

If the failure is to be extended, the Director of Libraries should be notified. It is his responsibility to make the decision on continued library operations.

GENERAL INFORMATION

A. Auxiliary Lighting

Each individual library unit and each floor of the library should have auxiliary lighting to be used in case of a power failure, even if this lighting is only in the form of flashlights. Staff members should be familiar with the location.

B. Flashlights

Routine monthly checks should be made to be certain that:

1. The flashlights are still there.

2. They are in first class operating condition.

5. Hurricane Emergency Kit. University of Houston Libraries (Central Campus) Administrative Office. File 4.11, Safety. The University of Houston Libraries maintain a hurricane kit and a safety file on hurricane preparedness. Basic items include:

- 2 - First Aid Kits
- 12 - Flashlights
- 3 - Extra Flashlight Bulbs
- 6 - Extra Flashlight Batteries
- 2 - 6-volt lanterns (Safari Lights)
- 1 - Extra 6-volt Battery
- 24 - Light Sticks (Cyalume)
- 1 - Box Safety Matches
- 2 - Weather Monitors
- 2 - Transistor Radios with VHF Weather Broadcast Band
- 2 - Rain Coats
- 2 - Prs. Rubber Boots
- 4 - 5-gallon Plastic Water Bottles (to be filled when alerted by University Safety Office)
- 12 - Drop Cloths
- 4 - Rolls 2" Masking Tape
- 4 - Rolls 1" Masking Tape
- 5 - 1/2 quart Capacity, Hand Spray Guns
- 1 - Liquid Weight Measurer
- 1 - Quart Measuring Cup
- 1 - Pound Crystalline Form Thymol
- 5 - Quarts Methyl Alcohol
- 4 - 4' x 8' Plywood Sheets (1/4 inch or thicker)
- 3 - 2" x 4" Wooden Studs, 6' Long
- 1 - Wooden Ladder
- 1 - Hammer
- 1 - Saw
- 1 - Pound Nails, Various Sizes
- 1 - "Sterno" Stove
- 3-4 - Blankets

  Food (Canned, for emergency purposes.)

SALVAGING LIBRARY MATERIALS

THE NEW YORK PUBLIC LIBRARY

The Research Libraries

October 30, 1975

TECHNICAL MEMORANDUM No. 41

EMERGENCY PROCEDURES FOR WATER-DAMAGED LIBRARY MATERIALS

PURPOSE

The purpose of this memorandum is to establish guidelines to be followed in case of water damage to books and documents in the collections.

GENERAL

The damage done to books and paper by water is two-fold: wet paper is extremely fragile and may tear at a touch, and moist paper combined with warmth provides an ideal situation for the growth of mold.

Swelling of bindings, stains, growth of mold, eradication of water-soluble inks and pigments, permanent bonding of leaves printed on coated paper, and the obliteration of plate lines and print impressions are among the types of damage which may occur to library materials which have been soaked by water. Damage can be minimized by freezing water-soaked materials until rehabilitation is undertaken. Freezing is the treatment of choice at the present time. It has no injurious effect on paper and the method can be used safely for books, manuscripts, maps, unframed prints and drawings, and other paper materials. Freezing is not recommended for microforms and photographic prints.

FREEZER

The Conservation Division has a freezer located in the Custom Binding and Repair Section (Room 60) for use in emergencies. Its capacity (22 cubic feet) is limited to approximately 100 to 130 bound volumes. If the amount of material damaged exceeds the capacity of the freezer, other arrangements for freezing at an off-site commercial facility must be made as quickly as possible. Keys to the Room and to the freezer are kept in the administrative office of the Conservation Division, Room 101. A duplicate set of keys is kept in the administrative office of the Preparation Services, Room 106.

1.0 SURVEILLANCE & MONITORING

Supervisors and Conservation Representatives should periodically survey reading areas, and work and storage areas for potential or suspected sources of leaks. Areas subject to frequent condensation problems should also be surveyed. A memorandum should be prepared, giving precise information on the location, size, suspected source, and other pertinent data, and sent to the Executive Officer. A copy should be sent to the Chief of the Conservation Division.

2.0 NOTIFICATION OF DAMAGE

When a leak occurs, the Chief of the Conservation Division and the Executive Officer should be notified immediately. If library materials are in imminent

danger, or have already been damaged, notification should be made by telephone and followed up with a memorandum detailing the circumstances of the occurrence and the amount and extent of damage. The Executive Officer shall notify the Chief of Building Maintenance and Operations promptly.

3.0 CONSERVATION DIVISION PROCEDURES

The following procedures shall be performed by members of the Conservation Division staff with the assistance of staff members of the affected division. If the emergency occurs at a time when administrative staff of the Conservation Division are not available, these procedures should be performed as conscientiously as possible by whatever other library staff is available at the time.

3.1 Sort books into three categories: soaked through; wet edges only; damp.

3.1.1 Thoroughly soaked books.

Turn off heat in room if possible. Do not open or close books, empty archival boxes, or in any way disturb the condition of the books. Handle as little as possible. Prepare material for freezing by wrapping loosely in freezer paper, waxed paper, or silicone paper. Place wrapped material flat in boxes or cartons for transportation to freezer. For ease in handling, do not pack boxes too full. Do not stack the cartons.

If freezing is delayed by more than a day, materials must be treated with thymol first. A thymol chamber is available in the Custom Binding & Repair Section.

3.1.2 Books that are wet around the edges.

A. Coated paper. All coated paper should be immediately frozen. Do not allow to dry before freezing.

B. Uncoated paper. As a temporary and first-hand measure, books which are only partially soaked at the edges may be opened carefully, interleaved with paper towels or clean newsprint every few pages or where water has seeped in, and stood on end with pages slightly fanned out. It is important when drying books in this manner, to stand them on the head (top) end, and to support heavy covers with folded wedges of paper toweling, cardboard, or styrofoam. (Styrofoam is available from the Shipping Room).

3.1.3 Damp books.

Damp books should be frozen immediately if humid conditions prevail (relative humidity over 55%) coupled with temperatures above 70 degrees F). Mold spores begin to grow at temperatures as low as 40 degrees F. if the relative humidity is high.

In seasons of low humidity (below 35%), follow procedures outlined in sections 3.1.1 and 3.1.2 above.

3.2 When drying books, it is important to keep air circulating and to eliminate dead air pockets. Fans should be secured from BM&O and positioned in the vicinity to insure adequate circulation. After the books have dried, the need for further treatment will be discussed by Conservation Division personnel with the division chief or curator.

4.0 PHOTOGRAPHIC MATERIALS

Photographic materials should not be frozen unless they cannot be professionally dried, since the formation of ice crystals may rupture the emulsion layer and leave marks on the film.

5.0 RECORD-KEEPING

It is essential to keep accurate records for materials removed from assigned locations for freezing or other treatment. Shelf list cards should be flagged, and a brief entry for the item written directly onto the freezer paper as the items are wrapped.

Use a soft pencil for marking contents. Do not use ball-point pens or felt-tipped pens.

6.0 SUPPLIES

The Conservation Division keeps a small supply of freezer paper and 9' x 12' plastic sheets on hand for use of Central Building units. Units outside the Central Building should keep a supply of freezer paper (6 rolls) and plastic sheets on hand in a central administrative office.

7.0 FURTHER INFORMATION

Since guidelines such as these cannot cover all possible situations, the Conservation Representative of each division, Division Chiefs, and Curators should gain a general knowledge of the procedures and principles involved in the salvage of water-damaged materials. Additional information can be found in:

Waters, Peter, Procedures for Salvage of Water-Damaged Library Materials. Washington, D.C., Library of Congress, 1975. 30p.

Copies of this pamphlet are now being produced, and will be sent to all Conservation Representatives in the near future.

The procedures outlined in this document are based on the publication by Mr. Waters cited above, and on the following article:

Spawn, Willman. "After the water comes." In PLA (Pennsylvania Library Association) Bulletin, 28, no. 6, November, 1973, pp. 243+.

James W. Henderson
Andrew W. Mellon Director
of The Research Libraries

JWH:rw

III. Salvage Recovery

In the event of an emergency causing damage (fire, flood, etc.) in any of the library areas (Mills Library, Thode Library, Innis, and Map Library) Security Services should notify three persons after emergency services have been summoned:

1. The University Librarian (alternative: Associate Director, Library Administration)
2. The Assistant Vice-President, Academic Services
3. The University Risk Manager

The University Librarian will then assemble a Salvage Recovery Team, appropriate to the location and extent of damage. For an emergency situation other than a minor or local one, a team of at least twelve persons should be assembled, including the three persons named above. The other nine persons will be:

1. The Recovery Specialist
2. The Library Administrator
3. The Recorder
4. The Operations and Maintenance Representative
5. The Appropriate Building Representative
6. The Appropriate Salvage Co-ordinator
7. The Appropriate Salvage Cataloguer

8/9. The Appropriate Packers

Wherever the emergency is located, certain persons will be members of the Salvage Recovery Team. The Building Representative, the Area Co-ordinator, the Salvage Cataloguer and the Packers will be identified from the specific location of the emergency, as each should have an in-depth knowledge of the salvage priorities for that area.

On the following page is a listing of the Salvage Recovery Team with the names of alternates in the event of unavailability.

The University Librarian (or alternate) on receiving word of an emergency, will request appropriate staff from this listing to assemble at a library area not involved with the emergency:

EMERGENCY AT:	ASSEMBLE AT MAIN ENTRANCE OF:
Mills	Thode
Thode	Mills
Innis	Mills
Map Library	Thode

Tasks and Responsibilities of Salvage Recovery Team

1. SALVAGE DIRECTOR
   - in overall charge of salvage recovery
   - assembles salvage recovery team
   - ensures availability of keys to access area and collections

2. RECOVERY SPECIALIST
   - determines methods and procedures for salvage

3. LIBRARY ADMINISTRATOR
   - arranges for purchase of supplies
   - co-ordinates dispersal of salvaged material

4. RECORDER
   - works with Salvage Director to make record of the salvage effort.

5. UNIVERSITY ADMINISTRATION REPRESENTATIVE
   - expenditure authority

6. UNIVERSITY RISK MANAGER
   - insurance and liability

7. OPERATIONS & MAINTENANCE REPRESENTATIVE
   - co-ordinates transport, equipment and trade labour

8. COMMUNICATIONS PERSONNEL
   - act as runners between the various officers

9. APPROPRIATE BUILDING REPRESENTATIVE
   - link between central committee and local operations

10. SALVAGE CO-ORDINATOR (FOR EACH AREA)
    - distributes salvage supplies and determines priorities
    - directs packers

11. SALVAGE CATALOGUERS (FOR EACH AREA)
    - inventories material removed
    - labels boxes for identification
    - directs packers

12. PACKERS
    - pack salvaged material in boxes for removal from area.

EMERGENCY PLANNING COMMITTEE

SOME GENERAL INSTRUCTIONS TO STAFF FOR SALVAGE PROCEDURES FOLLOWING AN EMERGENCY

1 NO ACTION should be taken until the emergency situation has been brought under control and safety clearance has officially been given to enter the area. Only authorized persons will be allowed into the area, and they should not proceed with any salvage attempts without first reporting to the Salvage Team (John Holmes, Margaret Maggs, Arthur Lawrence).

Instructions will be given regarding the method of salvaging, procedures to be followed, priority of materials, and issue of supplies.

2 The major damage is likely to be caused by water only, or fire and then water. The procedures for both these situations are very similar, and will necessitate the handling of wet and probably dirty material. (Wear old clothes!) Handling of material in this condition should be kept to a minimum.

Depending on the degree of damage, books may require wrapping with wax coated or freezer paper prior to transporting in plastic crates to a facility for freezing. Cardboard cartons such as those provided by Lehmann Bookbinding can be used, but the boxes should only be half filled because of the weight and strength limitations of the boxes when wet.

Microfilm should only be removed from water if it can be relocated or transported immediately in containers of clean cold water for reprocessing by Kodak.

3 FIRST PRIORITY material in all areas of the library will be marked with RED tape. Whenever possible this material must be salvaged before any other priorities. Material of a low priority or without any designation should be salvaged last of all.

4 Duplicate keys to locked areas will be available from the Salvage Team.

5 Salvage any portable catalogues, tapes, printouts and shelf lists, relevant to the area, which would be difficult or impossible to replace.

6 It may be necessary to consider alternate exit points for some areas of the library. No material should be removed from the library without prior clearance from the Salvage Team and/or Security.

7 All boxes and items being removed or relocated must be labelled and identified, with a record of the correct order and previous location.

8 If required, book trucks will be located and distributed by the Stacks Supervisor.

9 ABOVE ALL REMAIN CALM. IF IN DOUBT CHECK WITH SALVAGE TEAM.

NOTE: The above information is intended as a brief outline of some of the procedures which will be carried out in the event of an emergency. Anyone requiring more detailed information can contact members of the Library Emergency Planning Committee: MARGARET MAGGS, ARTHUR LAWRENCE, JOHN HOLMES, PADDY CLAYTON, VICTOR NUNN.

PRELIMINARY SALVAGE PROCEDURES FOR WATER-SOAKED LIBRARY MATERIALS

The following document is an outline of procedures to be used by the UCR Library. It is not meant to be exhaustive, but is to be used as a guideline. It is an amalgamation of the salient points brought out in the books and articles listed in the bibliography, which follows. For further information and more detail on procedures, see the Waters book (last citation in the bibliography). All salvage team members are to have a copy of this book.

BIBLIOGRAPHY

Bohem, Hilda, Disaster Prevention and Disaster Preparedness (Berkeley: Office of the Assistant Vice-President - Library Plans and Policies, Systemwide Administration, University of California, April 1978).

DeCandido, Robert, "Preserving our Library Materials," The Library Scene 8 (Sept. 1979): 6-8.

Flowers, Ann, and James Craven, Disaster Plan for the Bentley Library. ([Ann Arbor: s.n.], 1976, updated 1977)

Sellers, David Y., and Richard Strassberg, "Anatomy of a Library Emergency," Library Journal 98 (Oct. 1, 1973): 2824-2827.

Spawn, Willman, "After the Water Comes," PLA Bulletin 29 (Nov. 1973): 243-251.

Waters, Peter, Procedures for Salvage of Water-Damaged Library Materials ([LC Publications on Conservation of Library Materials] (Washington: Library of Congress, 1975)

Copies of everything in the bibliography are available from the Disaster Preparedness Shelf in the Collection Development Department. A continuing SDI search is being conducted and additional materials of relevance to Disaster Preparedness and Salvage will be added to this Shelf.

DRAFT

PRELIMINARY SALVAGE PROCEDURES FOR WATER-SOAKED LIBRARY MATERIALS

In recent years several major libraries in this country have experienced extensive damage to their holdings due to water. Most water damage is related to the extinguishing of fire, but damage from flooding, leaking water pipes, air conditioning systems, etc., is not unknown. This document will cover the procedures needed to prepare wet library materials for propoer restoration in the event that such a disaster has occurred. It should be considered, along with other documents, including planning materials on disaster preparedness and fire control, as part of the UCR Library's Disaster Preparedness Plan.

The foremost consideration in any emergency should be the safety of the Library patrons and staff. Every staff member should be aware of the existing guidelines and emergency procedures and they should be publicized for patron information. Emergency procedures for safety of personnel are not within the purview of the Disaster Preparedness Co-ordinator, nor the scope of this document. However, since the safety of people is linked to, and crucial to, the safety and preservation of the collections and their physical surroundings, it is necessary that the Disaster Preparedness Co-ordinator work closely with those involved with emergency procedures.

After the emergency, when safety officials have approved the safe reëntry by the staff, a thorough inspection of the building should be conducted immediately to locate the areas containing damaged material.

If other materials are endangered, their safety should be guaranteed first, before anything is done with the damaged items.

Assessment of Damage

The following questions should be answered first, in order to plan most effectively for the salvage operation:

1) What kind of damage is there? Is the water clean or contaminated? Is there mud or ash involved? Are the books burnt? How much water will need to be extracted? (See WATERS.)

2) How much material is affected? (Useful to assess in terms of linear feet of shelving.)

3) What kinds of materials are affected? Will they be replaced or salvaged? (Remember: Replacement is nearly always cheaper than restoration.) What materials should be given priority? Are there leather bindings involved? What kind of paper? What age of book? Are there photographs, films, etc,involved?

4) Does the insurance cover water damage and is the insurance up-to-date? What items are under special insurance policies?

5) Will the tasks of salvaging mean closing the Library, or business as usual, with salvage operations going on in the backroom?

6) If decisions can be made about discardable items, they should be made before salvage operations begin (see 4 above). Then effort is not wasted on materials which are not worth it and a freezer compartment is not obtained which is too large (and, therefore, more costly). The Collection Development Officer, Chief Bibliographer, Special Collections Librarian, and others should be involved as appropriate.

7) What kinds of special equipment and materials must be obtained? Pumps? Generators? Freezer truck? Freezer compartment? etc. What additional supplies must be ordered, based on the magnitude of the disaster and the planned salvage activity. (The Library will have some materials in stock, but not enough to take care of a very large disaster. Additional supplies may be ordered - some from the Storehouse or local stores, some may need to be ordered on a rush-basis from special suppliers.)

8) Should a conservator be called in or telephoned for advice? Can s/he come at once?

SALVAGE PROCEDURES

When a fire, flood, or leak occurs and books are wetted, immediate action must be taken or they will be irreparably damaged. The books will already have been damaged from dirt, from stains leached from the water-soluble pigments in bindings, and from the swelling that takes place whenever paper is wet. The emrgency exists, however, because wet material will begin to grow moldy within hours. Mold will not only cause hard-to-remove stains on paper and binding, it eventually will start to decompose them. Prompt and correct action can minimize the damage which water has already done and greatly decrease the problem of mold growth. In addition, books and serials on coated paper will soldify into a solid mass if not promptly treated. NEED FOR SPEED cannot be overemphasized. Do not try to attempt restoration on site. This will slow things down and cause further damage.

Stabilize and Control Environment

Salvage operations must be planned so that the environment of flooded areas can be stabilized and controlled both before and during the removal of the damaged materials. Heat and humidity will cause mold to grow within 48 hours! To prevent mold growth, reduce temperature or humidity, preferably both. If temperatures can approach freezing, the mold will become dormant. Heat should be turned off, if it is on. Windows should be opened to ventilate the area and cool it down. Portable generators and air conditioners should be used if the electricity is inoperative. Fans should be brought to the scene as well as dehumidifiers (only effective above 65%:) humidity should be 50% or less. Measurements should be taken regularly and frequently in the stack areas with a sling psychrometer. Do not let people tell you that raising the temperature will decrease the humidity! Fans and dehumdifiers should be waterproofed and grounded and they should be running continually.

Combatting Mold

Mold starts on covers and works inward. If the books are tightly shelved, they will mold only on the outer edges of bindings, so don't separate them until you are ready to treat them or transport them to a freezing facility. Damp books are more susceptible to mold than wet ones. Books immersed in water can't mold; they mold in air. If you can't dry the books, or transport them to a freezer right away, they can be stored in clean running water for up to two weeks, if they are bound in cloth or paper and contain no water-soluble inks and dyes. If the water is polluted, a chemist should be consulted about adding chemicals to sterilize the water. Coated papers must not be allowed to begin drying until each volume can be dealt with under carefully controlled conditions. Keep these continually wet to prevent the leaves from sticking together.

If mold growth has started, kill it with thymol. If a small number of items is affected, interleave the pages with thymol-impregnated sheets of white blotting paper(saturate sheets in 10% thymol in alcohol or trichlorethene and dry before using).

If a large area is affected, a professional fumigator should be called in to fog the area with thymol in a mixture of 1 pound of thymol to 1 gallon of 1,1,1, trichlorethane for approximately each 20,000 cu. ft. affected. The best time to fog is between 9 and 10 pm. Fans should be turned off at this time. Then, you must wait 6 hours before venting and another 3 before people are allowed to enter. This will deter mold growth.

Removal of Damaged Materials

Books should be moved from the floors and aisles first - by use of a human chain. Then books should be removed from the lower shelves. The wettest books should be removed from the area first, since this will lower the humidity. Speed is of the essence, but be careful as well - wet materials are very fragile. Pack the books as you found them, to prevent further damage. Do not open books or try to compress swollen books. Do not close open books. When you pack the books, stand them so they do not fall over and become more contorted. Do not stand them on their fore-edges; they will pull out of their bindings with the added weight of the water. Do not pack them too tightly - allow for air circulation.

If books are charred, handle them with the utmost care so they will not crumble. Place them between cardboard sheets and wrap them for protection.

Inventory the books as they are removed. (See next section.) Pack the volumes in crates or boxes. The best are plastic milk crates because they are open-sided to allow for good ventilation, solid and non-crushable, easy to carry, and easy to stack, without crushing their wet contents. The second-best choice is a coated, waxed storage box like a beer carton, with the bottom lined with freezer paper.

Do not fill the containers all the way. About 1/4 of the space inside should remain unfilled to facilitate freezing and freeze-drying. Do not stack the cartons too high - they get soggy and crush.

If the books are to be frozen in the boxes, they should be wrapped in freezer paper, with freezer paper between the layers of books. If they are to be freeze- or vacuum-dried afterwards, however, there is no need to wrap them. Packages of wrapped materials should not exceed about 2 inches in thickness. Contents can be written on the freezer paper or the box. Do not write on the books. Break down cardboard boxes and build them again as holders for folio books. Sandwich these with freezer paper and lay them flat.

Do not put wet materials on book trucks. (There is the potential of their removing the varnish, especially if there is alot of weight involved for an extended period of time, or if they are frozen this way.)

Dry books should also be removed from the area so that it can be cleaned (see later.) These should be stored in an area with good circulation, air conditioning, and dehumidification. Moisture should be measured regularly to see that all the books are really dry before they are transported back to the stacks. There should be checks for mold infestation before the books are returned to their places.

Inventory

A proper insurance claim cannot be made until the lost and damaged materials have been listed and valued.

Record the call numbers boxed so the Library will know what items are out of circulation.

Packages of wrapped materials should be marked to indicate the type of material,

its previous location, and its priority.

Marking can be done on the shelflist itself. Inventory can be made by "running" the shelflist against the circulation records. Using the shelflist can facilitate proper identification of books without call number labels and possibly books in pieces. Decisions can be made for discard through the use of the shelflist. Decisions involving marking of cataloging records should include the opinions of the Head Cataloger. Decisions for discard should involve the Collection Development Officer, Chief Bibliographer(s), and Special Collections Librarian, as appropriate.

Do not use staples, paper clips, felttip or ink pens, colored paper or newsprint (black-and-white is OK in a pinch), or adhesive tape on wet materials!

[This particular section is incomplete at present. The Catalog Policy Coördinating Committee has been asked to recommend procedures for inventory and record-marking.]

Freezing the Wet Books

Since wet books are extremely fragile and easily damaged, since they must be treated rapidly in order to prevent mold growth, since books on coated paper will soldify into a solid mass if not treated immediately, and since completely drying them is an extremely long and costly operation which cannot reasonably be mounted for more than a few books at a time, the best procedure is to freeze the wet books as soon as you can. This will also "buy" you some time for further planning and getting things ready for drying and restoration processes, as well as other procedures necessitated by the situation (building repairs, etc.) Then you can "nibble away" at the frozen collection a bit at a time. Freezing can be done indefinitely.

If the books are dirty, they should be washed before the freezing process begins: (See appendix on washing procedures.) However, if this cannot be effected fast enough, this can be done after freezing.

It is adviaable to rent a freezer truck with forced air circulation capable of maintaining a contant temperature of -15°F to -20°F. The truck can be parked outside the Library an easily loaded. You should begin to load the truck as soon as possible, leaving aisles for air circulation and ease of access. Have the truck only moderately chilly for comfort and safety, then reduce temperature to its lowest point as soon as loading is complete. Make sure the truck is kept in operation as long as any books are inside. If the operation will take only a day or so to complete (the number of books is relatively small), the truck may be sufficient and can be used as the freezer chamber itself. If, however, there is a substantial number of books involved, or the operations will be lengthy, a commercial locker should be rented which is large enough to receive the shipment of books (but not a great deal larger, since the cost would be based on the size of the compartment rented). Then the truck is used to transport the books and other materials to the freezing facility.

At the freezer, the books should be frozen in the containers they were packed in rather than removing them from the boxes in the freezing chamber. The freezer should be maintained at -20°F. This will stabilize the books in the condition in which they were found, thus preventing further deterioration. However, it must be pointed out that freezing is not a drying method, nor will it kill mold. Saturated volumes which have lost their shapes or have had their binding structures damaged will increase in thickness during freezing, but will suffer no additional damage. Some very large collections of materials have been frozen for as long as 6 years, with little or no permanent damage. Freezing should be done very rapidly in order to produce the smallest ice crystals.

If only a few books are affected, freezing can be accomplished in a home freezer. The books can be packed in dry ice and transported to the freezer.

If freezing space is limited, priority should be given to items in the following order:

1) Items which have already developed mold.
2) Leather- and vellum-bound books.
3) Manuscripts.
4) Art on paper.
5) Materials on coated stock.
6) Artifacts with water-soluble components(inks, water-color, tempura, various dyes, etc.)
7) Photographic prints.

Other Wet Materials

In most cases, these special materials should be frozen at once and their ultimate restoration left to experts.

Microfilms

Place them in a secure container of clean water at once and send them off to Eastman-Kodak for re-processing. Do not allow them to dry out. If deemed necessary, the manufacturer should be called and consulted.

Framed Photographs

Remove from frames at once so they will not stick to the frames. Lay the photos between blotters to dry.

Color Slides and Film

Freeze if the film cannot be transported to a professional photographic service within 48 hours (or the colored layers will separate and the dyes become weak).

Single Sheets

Do not attempt to separate single sheets unless they are supported on polyester film or fabric. They should normally be frozen "as-is" and separated later after vacuum- or freeze-drying. WATERS (p. 22) lists a technique for separating single sheets for hand drying.

Materials in Drawers and Boxes

Do not dump these out. The wet contents may stick to the container and tear. Both the contents and their containers should be frozen as found.

What to do After Freezing

Remember: frozen books are brittle.

There are several techniques to choose from. These include:

1) Freeze-drying
2) Vacuum-drying
3) Air drying

Freeze-drying

Materials should be frozen at -20°F in a vacuum chamber. The moisture will then become volatile and mix with air. Air is circulated to remove the moisture.

Early manuscripts and rare printed books should not be mixed with deteriorating or brittle materials in the chamber because of the possibility of acid migration from the latter to the former during drying.

This method, and the next one listed, are the cheapest and most effective when a large number of items are involved. They reduce staining and smoke odor. They prevent the diffusion of water-soluble inks and dyes. They are the only ways to dry glossy coated paper stock.

Vacuum-drying

Materials should be put in a chamber under low (32°F) temperature and the pressure lowered until the moisture becomes volatile and mixes with the air. Then the pressure is raised and the air is circulated to remove the water. This process is repeated as often as necessary. This method is quicker than freeze-drying and more efficient. Sterilizing can also take place in the vacuum chamber.

If the water-damaged material was infested by mold before freezing, it should be sterilized. This can be done by fogging the chamber filled with books with a solution of ethylene oxide mixed with either carbon dioxide or Freon. It is also suggested that there be a fogging with a solution of 12% thymol in trichlorethylene afterwards as an additional safeguard.

See the notes above that cover this method as well as freeze-drying.

Air drying

The drying should be done in a large open workspace. There should be constant air circulation and dehumidifcation. Temperatures should be maintained at 65-70°F (maximum) with a relative humidity of 35-45% (maximum). Frequent readings of temperature and humidity should be taken. Moisture content in the drying materials should also be measured. Wet wrappings and blotting materials should be removed from the room as fast as possible in order to keep the humidity down.

If the books are contorted, they should be remolded back into shape before drying. If necessary, they can be refrozen.

Wet materials should be separated into small units so that air will flow freely around them. The smaller piles will also prevent crushing of the materials on the bottom.

If the books are dirty, they should be cleaned. (See appendix on washing procedures.)

Books should be weighed at the start of the drying process so that the amount of water in them can be determined. (See WATERS.)

Drain books by standing them on their heads (less strain on the spine) with their covers spread sufficiently to make them stand up. Styrofoam or foam rubber supports can be used to help the books stand. Their pages should not be fanned. Each book should stand on a piece of absorbant paper cut to the size of the book. These should be changed freqently and removed from the room.

When dried sufficiently to be opened without damage, interleave the book with thymol-impregnated sheets (10-15% thymol solution in denatured alcohol - see WATERS, p. 18.) The mixing of the thymol solution should take place outside due to the toxic fumes of the solvent. The mixer should wear protective clothing against being burned. Since thymol is volatile, the sheets should be wrapped.

An especially important place to treat with thymol sheets is the area between the flyleaf and the cover boards. Since covers dry more slowly, this is a prime area for mold infestation.

When opening the books, take considerable care, keeping the opening shallow at first. WATERS tells in detail how to do this. Interleaving materials and absorbant papers under the books should be removed and changed often. After the interleaving has been changed a few times, the books will be almost dry. At this point they may be placed horizontally under a light weight.

If desired, partially dry books may be hung over nylon lines to finish drying. (They should not be hung when very wet because they will be damaged further.) Hanging will help to restore the spine to its original shape. Spines tend to become concave due to the swelling of the leaves by water and the subsequent interleaving process- WATERS explains how to construct these lines and hang the books on them. (p. 19)

Never stack drying books.

Books should not be immediately returned to the shelves. They should be shelved in a holding area with 35-45% humidity, separate from the stack area. This area should be well-ventilated and air-conditioned, with a temperature not to exceed 65°F. Temperature and humidity must be adjustable. There, the books can be inspected for further repair, rebinding, or restoration needs. Random inspection for mold infestation can also take place here. Newly-dried materials should never be packed in boxes unattended for more than a day or two.

Books should remain in the holding area at least 6 months before returning them to the main stack area. During this time, temperature and humidity can be slowly changed to duplicate stack conditions. The books should be carefully inspected by a conservator before their return to the stacks.

Preparing the Stacks for Rehabitation

The shelves should be repaired or replaced, if necessary. The surrounding area should be inspected to see if water has lifted floor tiles, etc. Remaining pockets of water should be sought and removed. Of course, the cause of the flooding, if it resulted from a burst pipe or a leak, should have already been taken care of.

The shelves should be thoroughly washed with disinfectant, including the corners, bottoms, and sides of the shelves.

Do not move materials back until the shelves are completely dry and the temperature and humidity have been restored and maintained for several days. Then, the books may be reshelved in the collection.

Afterwards

Site inspection should continue periodically for a year to be sure no mold has grown.

A post-mortem should be held to determine what went right and what went wrong. Reports should be written and perhaps even published in order to help other learn from our mistakes and so that we will be more on our toes in the future. If the Plan needs to be revised, this should be done. Supply sources and facilities should be evaluated and, if inadequate, new ones should be found. Used supplies should be replaced. Everyone should be thanked for their part in the operation by the University Librarian.

Appendix

WASHING METHODS

A. Peter Waters' Method (Requires a large place with plumbing and adequate drainage)

1. Install hoses feeding to bottoms of 6-8 plastic garbage cans to
   a. Keep water running
   b. Keep dirt overflowing out
2. Keep books tightly closed (Do not open books - they will fall apart)
3. Gently sponge underwater (Daub - do not rub or brush - this will only drive dirt deeper!)
4. Move books from can to can and successively cleaner water
5. Spray with fine stream of water at end of procedure
6. Press out water with hands (do not use mechanical presses)
7. Dry or freeze

Do not attempt this method with open volumes, manuscripts, art on paper, or photographs. For further information, see WATERS.

B. Willman Spawn's Method

1. Dip in large tub of clean running water
2. Dry or freeze

C. British Museum's Method

1. Dab with damp, clean cloth
2. Dry or freeze

The washing of materials containing water-soluble components, such as inks, watercolors, tempera, dyes used in certain maps, and the like, should not be attempted under any circumstances. Wait for the guidance of an expert.

MEMORANDUM

DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE
PUBLIC HEALTH SERVICE
NATIONAL INSTITUTES OF HEALTH
NATIONAL LIBRARY OF MEDICINE

TO : See Below
THROUGH: , Associate Director, LO

DATE: November 27, 1979

FROM : Chief, Reference Services Division

SUBJECT: NLM Disaster Recovery Plan

The attached plan is forwarded for your information. The Reference Services Division and History of Medicine Division have the prime responsibility for activating a disaster recovery plan in the event of water damage to the collection. All Library employees are responsible for reporting any water leakage or accumulation anywhere in the building. Signs are posted in the stack areas on all three floors listing the names and telephone numbers of persons to be notified immediately on noting any water leakage or accumulation. For areas outside the stacks, the Office Services Manager should be notified. Beyond this, staff members are requested to hold themselves ready to respond to a call for assistance from the Disaster Recovery Team Leader.

As required, additions and changes will be provided to maintain the Plan in a current state.

Albert M. Berkowitz

Addressees:
Director (3)
Deputy Director
Executive Officer
Chief, Office of Admin. Mgmt. Services
Office Services Manager (2)
Chief, Office of Pgm. Analysis and Legislation
Associate Director for Library Operations (3)
Associate Directors LHNCBC, EMP, OCCS, SIS, NMAC
Reference Services Division (16)
History of Medicine Division (4)
Technical Services Division (4)
Bibliographic Services Division (3)
Captain of the Guard
Guard Stations (3)
NLM Engineer
Disaster Recovery Supply Cabinet (2)

11/26/79

DISASTER RECOVERY PLAN

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DISASTER RECOVERY PLAN

PLAN I Freezer accommodation in-house. No more than approximately fifteen shelves of books require freezing.

PLAN II Exceeds in-house freezer capacity but not transport capacity. No more than approximately fifty shelves of books require freezing and crates are available to move them.

PLAN III Catastrophic flooding. More than fifty shelves of books require freezing.

Note: Much of the material in this plan is drawn from "Procedures for Salvage of Water-Damaged Library Materials" by Peter Waters, Restoration Officer, Library of Congress.

EXTENT AND LOCATION OF DAMAGE

OBSERVE

When working stack areas, be alert to any water

1. Dripping from the ceiling
2. Seeping through outside walls
3. Accumulating on the floor from any source

NOTE EXTENT OF THE ACCUMULATION

1. Puddle on the floor (approximate size)
2. Damp or wet books (number of shelves or range sections affected)
3. Wall or ceiling wet (approximate size of area)

LOCATE THE AREA

1. Floor level involved (1st, A, B, C)

2. Collection involved

   a. General Collection
      (1) 19th Century monographs
      (2) 20th Century monographs
      (3) Congresses
      (4) Documents
      (5) Journals

   b. History of Medicine Collection (Guard has Master Key)
      (1) Monographs
      (2) Journals
      (3) Prints
      (4) Manuscripts

   c. TSD Storage area

   d. Film Vault

   e. OPIPM Storage area

   f. Records Storage area

3. Nearest stack range number

4. Note and report any electrical wiring in the area that may be exposed to water.

REPORTING PROCEDURES

Monday - Friday, 8:30 a.m. to 5:00 p.m.

If any reporting level is not available, notify the next level up.

Each level is responsible for notifying the next level up immediately upon learning of the water leakage, indicating the extent and location.

1. Floor Supervisor
   A Level - Mr. Johnson - 496-5511
   B Level - 496-2809
   C Level - Ms. Ladson - 496-2864

2. Head, Collection Maintenance Unit - Ms. Bosma - 496-5511

3. Section Head - Ms. Arenales - 496-5511

WHO WILL NOTIFY:

Guard on duty at Loading Dock - 496-6010
Office Services Manager - Mr. McGroarty/Ms. Ruben - 496-5441
Office of Admin. Mgmt. Services - Mr. Kerkhof - 496-6491
Building Engineer - Mr. Crigger or his alternate (reach through Off. Serv. Mgr.) or Mech. Room - 496-5950; Maintenance Dept. - 496-1966

FOR HISTORY OF MEDICINE:

Chief - Dr. Blake - 496-5405 / Dr. Olch - 496-5961

4. Office of the Chief, RSD
   Mr. Berkowitz/Ms. Spencer - 496-5501

5. Deputy Associate Director for Library Operations
   Mr. Barry - 496-6921

Evenings, Weekends, and Holidays

1. RSD Supervisor on duty on A Level

2. Guard on Duty at Loading Dock. Instruct Guard to notify engineer, Building 37, at .

3. A Level Supervisor also notifies Office Services Manager, Mr. Joseph McGroarty at . and Ms. Patti Ruben at

(Phone numbers deleted for SPEC kit)

Then notifies the following for General Collection, OPIPM, TSD, and Records Storage areas:

Ms. Duane Arenales, Head, Circulation & Control
Mr. Albert Berkowitz, Chief, Ref. Services Div.
Ms. Carol Spencer, Deputy Chief, RSD

For History of Medicine Division

Dr. John Blake - . or (301) .
Dr. Peter Olch - .

4. Deputy Associate Director for Library Operations

Mr. James Barry -

PLAN I

ACTION STEPS

Following are authorized to serve as Salvage Team Leaders:

Mr. James Barry, Deputy Associate Director for Library Operations
Mr. Albert Berkowitz, Chief, Reference Services Division
Ms. Carol Spencer, Deputy Chief, Reference Services Division
Dr. John Blake, Chief, History of Medicine Division
Dr. Peter Olch, Deputy Chief, History of Medicine Division
Ms. Duane Arenales, Head, Circulation and Control Section, RSD

All supplies are stored in a Disaster Recovery (DR) Supply Cabinet on B Level next to the freezers and in HMD stacks at range #313.

Keys for freezers and DR Supply Cabinet are available in office of Circulation and Control Section Head; Chief, Reference Services Division; Chief, History of Medicine Division, and Guard Station at Loading Dock. Additional crates are available in History of Medicine Stacks on B Level near range #301. Guard on duty has master key for access to HMD stacks.

THINK BEFORE ACTING

1. Team Leader will mobilize salvage team and assign duties. Have Public Information Office photograph disaster area before, during, and after salvage operation.

2. In the absence of the Team Leader, Supervisor on Duty will do the following, utilizing available staff.

   a. Have Engineer attempt to stop leak.
   b. Cover affected ranges and adjoining ranges with tarpaulins or plastic sheeting stored in DR Supply Cabinet and HMD stacks at range #313.
   c. Plug in freezer units on B Level. (pre-set for -20° F.)*
   d. Identify and separate materials requiring special handling and refer to special instructions attached.
      (1) Prints
      (2) Manuscripts
      (3) Leather bound books
      (4) Film
      (5) Audiovisual media
      (6) For books printed on coated stock, if not frozen within five to six hours, interleave with newsprint. Newsprint sheets 12" x 12" are stored in DR Cabinet and Range 313.
   e. Move crates from freezers to scene of water damage and load books. Refer to Special Instructions, page 10C.

*Dry ice may be put in freezers to accelerate temperature drop. Dry ice available from Mr. John Bartgis, NIH Maintenance, 496-6484.

f. Place loaded crates in freezer units, adding books to fill spaces. All wet books not loaded in crates should be wrapped individually in bubble plastic available in Loading Dock area. Cut bubble plastic to fit with scissors or knife. Wrap each book in one layer of bubble plastic, leaving top and bottom of book open. Label crates as to range, section and shelf with pressure sensitive labels.

   Dry ice may be packed on and around books to accelerate freezing. For dry ice call Mr. John Bartgis, NIH Maintenance, 496-6484. Special gloves must be used in handling dry ice. Available in DR Supply Cabinet.

g. Bring any available fans to the wet area to maintain air circulation.

h. Mop, sponge, or wipe up any excess water from wet area. Supplies in DR Supply Cabinet.

   Extra mops and buckets are available in Cleaning Supply rooms as follows:

   First Floor
   Room 150 - In corridor behind Old Catalog
   Room 167 - In front lobby next to telephone booths

   A Level
   Room A-12 - In corridor connecting Circulation and Control Section and the Coffee Shop

   B Level
   Room B-7A - Adjoining Study Room B-9 and Range 436

   C Level
   Room C-4 - Opposite the entrance to Specialized Information Services near the Film Vault

i. Empty pan under upright freezer regularly to prevent discharging excess moisture into the air.

In-house freezers will accommodate approximately 15 shelves of book material. If in-house freezer capacity is exceeded, utilize Plan II. If catastrophic flooding occurs, utilize Plan III.

3. Call Preservation Office, Library of Congress, for Disaster Recovery assistance and to arrange for any necessary fumigation of books exposed to mold growth.

Mr. Norman Shaffer, Chief
Dr. Robert C. McCoub

Mr. Peter Waters
Restoration Officer

PLAN II

Plan II goes into effect when the in-house freezer capacity is exceeded but there are enough crates to move material by rented truck or NLM staff team to a freezer or cold storage plant. There are 50 crates available in the HMD stack area on B Level near range #301.

ACTION STEPS

1. Follow notification procedure.

2. Follow all action steps outlined in Plan I and utilize all in-house freezers. Action steps will be taken concurrently by Salvage Team members under the direction of the Team Leader.

3. Notify Building Services to report flooding, plumbing problems, and failure of utilities beyond what can be handled by the building engineer.

   During regular work week: Building 10
   After hours, weekends, holidays:
   Building 10
   (Special Police)

4. Move additional crates needed from HMD stack area on B Level to wet area and load crates. Guard at Loading Dock has key to HMD stack area. Crates are located near range #301.

5. Call:

   Biomedical Research Institute
   (Commander Vernon Perry or Mr. Sasso)
   12111 Parklawn Drive
   Rockville, Maryland 20852
   (301) 881-8146

   (Directions to Biomedical Research Institute: North on Rockville Pike to Twinbrook Parkway. Amoco Station on corner. Right on Twinbrook Parkway to second traffic light, Parklawn Drive. Right on Parklawn Drive past HEW Building to 12111, on left. Running time: 15 minutes.)

   This company has large freezers and freeze dry equipment and emergency arrangements have been made with them to freeze our excess wet materials or to arrange to have them frozen. There is someone on duty seven days a week 24 hours a day and emergency service can be provided nights, holidays, and weekends. Call Mr. McGroarty or Ms. Ruben to arrange for a Purchase Order.

6. For transportation call:

B.P. Truck Rental
4714 Miller Avenue
Bethesda, Maryland 20014
657-9099

Hours: Mon.-Sat. 7:00 a.m. to 7:00 p.m.
Sunday 9:00 a.m. to 2:00 p.m.

This is a Ryder Truck Rental agent. Arrangements for Purchase Order can be made by calling Mr. McGroarty/Ms. Ruben in Supply. Trucks available are 12', 18', or 22' box size. Try to match available size to load, noting that multiple trips can be made. Automobile operator's license only is needed to drive one of these trucks. (Directions to B.P. Truck Rental: South on Wisconsin Avenue to Miller Avenue. P.J. Nee and Exxon Station on opposite corners on right side. Right on Miller Avenue to first building on left side.)

If there is any delay in transporting and loading material into freezer, dry ice should be packed in and around crates. For dry ice call:

Mr. John Bartgis, Maintenance, NIH at / *

Special gloves must be used in handling dry ice.
Available in DR Supply Cabinet.

7. Call volunteers on transportation list to provide additional transportation to Biomedical Research Institute or other designated freezer plant if needed.

8. For books printed on coated stock, if not frozen within five to six hours, interleave with newsprint. Newsprint sheets 12" x 12" are stored in DR Supply Cabinet. Make every attempt to freeze books printed on coated stock on a priority basis. Additional newsprint available in HMD stacks at Range 313.

* Additional dry ice available at:

Rockville Ice and Beverage Service
12411 Washington Avenue
Rockville, MD (881-5333)

Rockville Pike to Twinbrook Parkway. Right on Twinbrook to Wicomico Avenue two blocks to Washington Avenue.

PLAN III

Plan III goes into effect when there is a catastrophic flooding of an area which exceeds the in-house freezer capability and our ability to have enough crates to move material to a freezer company. This plan calls for use of a freezer truck or trailer loaded at NLM.

ACTION STEPS

1. Follow notification procedure.

2. Follow all action steps outlined for Plan I and utilize all in-house freezers. Action steps will be taken concurrently by Salvage Team members under the direction of the Team Leader.

3. Notify Building Services of extent of flooding and request help.

   During regular work week: Building 10
   After hours, weekends, holidays: Building 10
   (Special Police)

4. Move crates from EMD stack area to scene of water damage and load books. Secure book trucks for moving additional books to freezer truck.

   If additional crates are needed try:

   Mr. Nisonger
   Regional Engineer
   Embassy Dairy
   Waldorf, Maryland 20601
   (301) 843-1212

5. Secure refrigerator truck or trailer (liquid nitrogen type if possible).

Budget	656-6000
Ryder	474-7400
Hertz	529-6200
Avis	526-5400

   Note that refrigerator trucks are normally on long term lease to commercial companies and may be scarce.

   Ordinary automobile operator's license is all that is needed to drive a refrigerator truck. Instructions would be supplied by rental office.

If a refrigerator truck is not available from a rental source try:

Mr. Ernest Moore
Public Affairs Manager
Safeway Stores, Inc.
341-6800

Mr. Al Dobbin
Senior Vice President
in Charge of Operations
Giant Food, Inc.
341-4848

They have indicated a willingness to consider a request for loan of a refrigerator truck if it is available.

6. Call

Biomedical Research Institute
(Commander Vernon Perry or Mr. Sasso)
12111 Parklawn Drive
Rockville, Maryland 20852
(301) 881-8146

regarding available freezer locker space to move frozen books awaiting freeze drying.

Following company also has freezer capability:

Mr. Sam Gaddell
Tyson's Frozen Food Locker and Cold Storage Plant
8330 Leesburg Pike
Vienna, Virginia 22180
893-8000

Mon. - Thurs. 8 a.m. - 5 p.m.
Friday 8 a.m. - 7 p.m.
Saturday 8 a.m. - 2 p.m.

24 hour a day emergency numbers:
938-6877 or 938-9203

Mr. McGroarty/Ms. Ruben will provide a Purchase Order.

A major freeze-drying facility is available at:

General Electric Company
Valley Forge Space Center
Valley Forge, Pennsylania 19481
(215) 962-2000
Mr. R.G. Shoulberg: (215) 962-4008

7. For books printed on coated stock, if not frozen within five to six hours, interleave with newsprint. Newsprint sheets 12" x 12" are stored in DR Supply Cabinet and at Range 313.

SALVAGE TEAM ROSTER

Home Telephone Number

DELETED FOR SPEC KIT

* Ms. Duane Arenales

* Mr. James Barry

* Mr. Albert Berkowitz

* Dr. John Blake

Ms. Patricia Bosma

Ms. Peggy Beavers

Mr. Phillip Coleman

Mr. Howard Drew

Ms. Phyllis Mirsky

* Dr. Peter Olch

* Ms. Carol Spencer

Ms. Frieda Weise

Mr. Robert Woodruff

Other Library Operations personnel as needed.

* Authorized to serve as Salvage Team Leader

LO Staff Willing to Volunteer Selves and Vehicles in Case of Emergency

MMS	Carolyn Tilley	covered pick-up truck	
	Helen Yorkilous	passenger car w/trunk	
RS	Phyllis Mirsky	station wagon	
	Duane Arenales	station wagon	
	Charlotte Moulton	station wagon	
	Frank Libersky	small wagon	
HMD	Dr. Blake	small pick-up truck	
	Dr. Cassedy	large station wagon	
	Ms. Keister	Volks van	
	Dr. Krivatsy	Chevette station wagon (very small)	
BSD	Herbert Naylor	van	
	Lois Blaine	van	
TSD	Virginia Kirkpatrick	station wagon and small camping trailer	365-0600 (Apt. office) 469-6763 (home)

HOME PHONE NUMBERS DELETED FOR SPEC KIT

DISASTER RECOVERY SUPPLIES

INVENTORY

SUPPLY CABINET AT FREEZER LOCATION

12 sponges
1 sponge mop with squeegie
(Additional buckets and mops available in Cleaning Supply Rooms. See Plan I, Page 4A 2.h. for locations)
1 mobile bucket
7 pr. rubber boots (large size)
7 pr. rubber gloves
6 pr. cotton gloves
3 pr. gloves (for handling dry ice)
1 large flashlight
6 Duracell batteries
6 lab. aprons (rubber)
1 First Aid Kit
6 pr. coveralls
300 paper towels
500 sheets unprinted newsprint paper
2 bottles disinfectant
2 boxes Borax
1 jar Trypsin
2 heavy duty 25 ft. extension cords (3-wire grounded)
2 pr. scissors
12 ball-point pens
10 writing tablets
1 log book
1 box pressure sensitive labels
2 balls twine
2 jack knives
2 copies NLM Disaster Recovery Plan
2 copies "Procedures for Salvage of Water-Damaged Library Materials" by Peter Waters.

HISTORY OF MEDICINE DIVISION STACKS

Range 313

1,000 sheets unprinted newsprint
6 duck tarpaulins (16' x 16')
1 roll plastic sheeting

Range 301

50 milk cartons for transporting wet books

Disaster Recovery Supply Cabinet uses same key as 2 large freezers. Key available at Loading Dock Guard Station, Office of Head, Circulation and Control Section, Reader Service Desk, and Office of Chief, Reference Services Division.

SPECIAL INSTRUCTIONS

Priority for Freezing

1. Materials which have already developed mold
2. Leather and vellum-bound volumes
3. Manuscripts and art on paper stock
4. Materials on coated stock
5. Photographic prints
6. Journal and mongraph volumes on non-coated stock

N.B. For cleaning and drying without freezing, see Peter Waters' "Procedures for Salvage of Water-Damaged Library Materials," in DR Supply Cabinet.

SPECIAL INSTRUCTIONS

Handling Wet or Damp Materials

Tables should be moved to the area to provide work surfaces. All work surfaces should be covered with plastic sheeting.

1. Keep a constant watch for signs of mold development.

2. In general, do not open wet books. Books may be partially opened at the discretion of the Team Leader to determine type of paper stock.

3. Do not separate single sheets.

4. Do not remove covers when materials are water-soaked.

5. Do not unpack wet file boxes containing papers, prints, drawings, or photographs. Freeze as found.

6. Do not attempt to close open books that are swollen; they should be packed without disturbing their shape.

7. Do not attempt to wash away dirt from wet materials except under the direction of a conservator.

8. Do not intermix early manuscripts or rare printed books with brittle or deteriorated material because of the possibility of acid migration to the former during the drying process.

9. Careful handling will reduce the cost of future restoration.

SPECIAL INSTRUCTIONS

MINIMIZE HANDLING OF BOOKS

Procedures for Packing Wet or Damp Materials for Freezing

1. Wrap all wet books in one layer of bubble plastic. Leave top and bottom of books open. Pack wettest books first, then very damp or partially wet material next. If all material can be frozen within a few hours, no sorting into categories is necessary. (Bubble plastic available in Loading Dock area.)

2. Inspect balance of books in the area. Do not separate or space out this material during the earlier salvage of the wet material. Closely packed materials will not develop mold spores on the external parts.

3. More rapid freezing will take place if books are not packed tightly. Dry ice may be packed on top of books to promote freezing if cartons are to be moved out of the Library for freezing and there is any appreciable delay.

4. Pack books fore edge down, spine up, rather than stacking them flat.

5. Books packed in crates should all be individually wrapped, At the discretion of the Team Leader, a flat layer of books may be placed over a stand-up base of books in a crate but should be separated from it by a sheet of bubble plastic. Sides of crates should be left open to promote faster freezing. Do not pack books above top edge of crate. Crates will be stacked.

6. Books packed around crates in in-house freezers should also be individually wrapped in bubble plastic.

7. Identify each crate by labeling it with a sequence number using a pressure sensitive label. A log should be maintained identifying the contents of each numbered crate by range number, section, and shelf location e.g. Range 345, Section 4, shelf 3. Section number is counted from the end with the lowest classification number and shelves are numbered top to bottom, i.e. top shelf is 1, second down 2, etc.

8. After wet materials have been moved away, and during clean up, move drier collections away from the wet area into a more controlled environment, while shelves, walls, floors, and ceilings are sterilized. Keep fans going to circulate air.

9. Packed material must not be allowed to remain on or near the site for more than a few hours, since such delay will further increase the possibility of mold development.

In the absence of plastic milk crates, cardboard boxes may be used to transport and freeze books. Cardboard boxes should be lined with plastic before loading.

Do not put wet books or papers directly on wooden book trucks and roll them into freezer lockers. Wet books will adhere to varnish on the trucks.

<u>Once in cartons, freeze, freeze-dry, and fumigate books without removing from cartons.</u>

SPECIAL INSTRUCTIONS

Archival Storage Boxes

1. If boxes have been stored tightly together, the material inside may not be saturated with water, but only damp; the boxes may be very wet.

2. Repack this material into crates or into dry cardboard boxes. Identify each crate or box and enter in log before freezing.

Separate Sheets and Leaves

1. Manuscripts, drawings, and handcolored prints should be frozen at once and restoration left to experts.

2. Do not attempt to sponge off mold. It can be removed more easily when dry.

3. Where single material is found in masses, it is usually better not to attempt to separate, but freeze them as they are. They will separate easily when freeze dried.

4. Do not turn drawers or manuscript boxes upside down to empty them. The wet contents may stick to the container and be torn if handled roughly. Except as noted above, containers and contents should be frozen as found.

Photographic Materials

In the film vault, it requires at least 2 inches of water over the floor before it would reach the bottom drawer in the film cabinets; 6 inches before the next drawers were reached.

1. Photographic materials should not be frozen unless they cannot be professionally dried. The formation of ice crystals may rupture the emulsion layer.

2. Film may be stored by sealing it in polyethylene bags and the bags placed in plastic (not metal) garbage cans, in cold water. They can be stored in this way for up to three days, pending drying. Ice may be added to the water to chill it.

3. For assistance and professional film cleaning contact:

Eastman - Kodak Company
Mr. Gary Marcus, Regional Photo. Specialist 527-2000
Mr. Nick Falco, Processing Lab Manager
Baltimore, MD (301) 265-5400
Mon. - Fri. 8:30 - 5:00

CASE HISTORIES

THE MEMORIAL DAY STEAM CLEANING

by R. Russell Maylone, Curator of Special Collections

I hope you will forgive me the small contradiction of speaking intimately of disaster to a group whose members are largely concerned with the opposite.

A disaster is an assault upon the senses, for unlike spilled ink or an overturned book truck, a disaster consumes everything, is uncontrolled, beyond human terms. Tornadoes, hurricanes, violent storms, fires, steam leaks, such as at Northwestern--they all will end, but as they spend themselves, we must witness a power quite beyond us. So much power fascinates, mesmerizes and immobilizes one for a time.

Our disaster occurred on Memorial Day, Sunday, May 30th, 1976. It resulted from broken groundwater pumps in an area beneath our Library which is built next to Lake Michigan. These pumps carried off the groundwater from the tunnel beneath the Library in which run the steamlines carrying the steam for heating this building. Because the pumps malfunctioned, the groundwater level rose to the point where it began to dissolve the asbestos insulating the steamlines. The groundwater was exposed to bare steam lines and very soon vaporized and rose up the chimneys which carried the steam lines directly to the third floor's overhead radiators. And since it simply rose to the highest point, it came directly to Special Collections where the chimneys stopped.

The steam, leaving the chimneys, entered the false ceiling above the Special Collections Reading Room and somehow got through a solid cement wall into our James Joyce treasure room (where there are no inlets that we have been able to find) as well as into the Art Collection Reading Room.

The Special Collections' staff was having brunch together that morning just two blocks from the Library. Needless to say we have no plans to have brunch together on another May 30th. Shortly before this date we had agreed to student wishes to open the Art Collection earlier and changed our Sundsy opening hour from 2 p.m. to 10 a.m. I hate to contemplate the further damage that would have occurred if the steam's presence had continued without interruption for another four hours, which would have happened under our old schedule.

At 10 a.m. opening time, our student assistant found the stairs leading up to the Art Collection running with water, the walls moist, steam throughout the mezzanine, and a rain cloud in the Art Collection. Swiftly she relocked the gates, got janitors to call Buildings & Grounds (their first remark to our student when she asked why they had done nothing was to say, "Why, we're not plumbers!") and then called us at our brunch.

I ran the two blocks to the Library and the sight which confronted me was at once quite beyond comprehension, bewildering and hotter than hell! The entire third floor hallway was covered with water, my glasses kept steaming up and, indeed, it was hot.

Special Collections, which I think about, work in and worry about most was awash! Tables and chairs, refinished in 1972 were covered with hot water. The rugs had puddles and odd green stains. The first thing the student and I found was that very very hot water was dripping from the ceiling. The room was completely filled with steam, everything was wet including a new truck of our books just up from the Cataloging Department. I took and opened the student's umbrella, put it over the truck and pushed it out of the room to another student. The Art Collection jumped to my mind for on a table were 80 card catalog drawers for our new catalog that we had worked two years to create---oh, the fate we'd all suffer if that was damaged!

It was immediately covered with plastic, then with foam-core board which completely protected it from the rain. Frustration and impotence quickly gave way to anger and a three-ring circus. Much had to be done quickly.

All authorities were called--the University Librarian, Head of Buildings and Grounds, and other Library personnel. That done, what to do?

First, all windows were opened to vent the steam as much as possible. The rest of the Department needed inspection, especially our James Joyce Room, where our most valuable books were kept. The key fit, and the lock turned but the door was stuck--it seemed nailed shut. It took several shoulder blows before it finally opened. It opened into a pressure cooker. The room, 25 x 15 feet, was completely filled with super heated steam and our most valuable books and manuscripts!! The mystery increased along with the worry. Bursting into the room was followed by racing out of it! The heat was unbearable. Finally, with the aid of a handkerchief over the mouth we ran across the room and opened one window; then, out the door to relative coolness and back for a second run to open the other window. We also turned on the air conditioners.

The hallway beyond the wall of our Department in the stacks had no steam in it, so we began a human chain removing books from the room and piling them on the floor in a hallway, along with paintings, drawings and manuscripts.

A janitor rushed up at that moment to say the building was about to explode; he ordered everyone out. We began to clear the Deering Building and the new Library building. By the time we arrived on the first floor of the new building, the University Librarian had arrived, as well as the head of the Heating Department of the University. The latter individual

was almost murdered when he bold-facedly asked my boss and I, "What's all the trouble? I already turned off the steam!" The building didn't explode that moment and neither did we, so back upstairs into Deering we went.

All of the above events occurred withing perhaps 20-30 minutes.

As all the tables were covered with standing water and would be very hard to refinish again, we simply turned them on end and wiped them with rags. We decided that cleaning our huge old oriental carpet would be less a problem than trying to repair the tables. The University Librarian commandeered large fans for the windows in an effort to vent the steam which began to happen almost immediately.

How much to do was the biggest question and that was quickly answered. We decided to move all the materials out of the Special Collections Department reading room, offices and Joyce Room!

Disasters unite everyone and our students were heroes as much as those in Florence. Before the first hour passed, all my brunching colleagues and their spouses were in shirt sleeves and we had a wonderful, enthusiastic, motley force of 25 students and friends.

The new Library has, between it and the Deering building a lovely and large faculty lounge. That's where we would move everything. How to do it was next, and that resolved itself with only a minimal amount of direction. Library trucks were commandeered from every part of the Library for Special Collections. Soon we began a long convoy operation as we emptied the Department, one loaded truck after the other wending its way through other parts of the Library to the faculty lounge.

In about 6 hours there were only several piles of things in my and the adjoining office still left in the Department. Everything else was

gone, including paintings, figurines, polychrome statues, vases, framed photographs and all the books--well, let us say that only the tables and chairs remained. In fact, as you sit here look around you. Everything you see in the cases, on the walls, on the windows, on the counters, it was all gone, the room was bare but for the tables, chairs and rugs. Glass doors had been removed from the cases in the Reading Room. Aldines, Elzevirs, incunablula, Horace (some 1500 volumes), all these and more were loaded onto a truck by whichever student was assigned the shelf. Fuchs herbal, Conrad Gesner, first editions of Henry Adams, Martin Luther, Hemingway, James Joyce, beautiful bindings, foredge paintings, manuscripts, all of these materials were indiscrimately assigned to someone to simply "Get out!"

Was anything lost by this cavalier use of students to move treasures that we curators jealously guard, chain, and control? Not any more than was lost to students of Florence! Only my cheap jacket I'd worn on the cool spring day. It turned up several weeks later in the Library's lost and found with my pipe still in the pocket! The students, adults, friends and colleagues were quite marvellous in their work.

Within five to six hours we had almost emptied the Reading Room, offices, James Joyce Treasure Room and removed all the paintings from the Art Collection walls.

A word about the paintings. The steam cloud in the Art Collection was mentioned earlier. It hovered in the room 15 feet above the floor and about 35 feet in length. Like the Special Collections reading room, it was raining in the Art Collection, but the rain condensing out of this steam cloud was not as hot as that in the Special Collections reading room.

The central conservation problem was that the steam cloud was hanging against and blocking from view when we first looked, the 12 paintings hanging in the Art Collection. They included, among others, a John Singer Sargent, a Paul Trebilcock and a wonderful Ramon Casas portrait (7 feet long) of Erik Satie, entitled "The Poet of Montmartre." We removed these paintings to the Faculty Lounge as fast as we could along with seven others in the Special Collections Department.

The next few hours were anything but quiet. We called Bill Anthony as soon as we could and told him we had a first hand book disaster on our hands--it wasn't Florence but we felt it was the best we could do and we needed help! He and his colleague Bill Minter came immediately. By the time of his arrival we were evacuating a new discovery--water soaked books from our stack area.

The steam had been condensing in the Art Collection against a ceiling 40 feet in the air and in Special Collections against a roof above our false ceiling perhaps 14 feet in the air above our heads. However, the steam had also been condensing in the penthouse against metal walls and windows, then seeping through the floor, and then, wonder of wonders, flowing down the stacks along load-bearing stack supports which ran between the floors and running over on our books three floors below! We not only had steam damage, but water damage as well. These wet books were immediately taken to the Faculty Lounge.

The job of evacuation began immediately. The water-soaked books had to be dealt with first and with a stroke of good fortune we found that the walk-in freezer at the student union was available to us. The wet volumes were filled with filter papers purloined from the Chemistry Depart-

ment store room by a friendly chemistry professor member of the volunteers. The books were placed in plastic bags and as quickly as possible rushed into the freezer. No time for clearing purchase order numbers or authorities. Our University Librarian simply told us to do what had to be done and with the assistance of excellent colleagues we did and accomplished, we think, about as much as might have been reasonably expected under the circumstances with regard to the soaked books.

Just to deal with this last first--the quick frozen books were several days later sent to the McDonnell Douglas Corporation in St. Louis for drying in vacuum chambers. The ice was sublimated to a gas so that no water remained in the books. The books were shipped to McDonnell Douglas in dry ice and returned 6 weeks later, still with the filter papers where we'd left them. Upon return, however, they were quite dry!

By four o'clock the starving volunteers needed food so we sent off a few with a wad of money for 35 hamburgers and milkshakes. Our local Burger King was most put out with our order and asked us to phone in advance next time we needed 35 hamburgers to go!

In an abbreviated, compressed form I have recreated the awful day of May 30th, 1976. Our losses, total losses, in the event were few, but they were irrecoverable. We lost a 15th century manuscript leaf commentary on the Book of Job that had been used as a binding; we also lost an attractive original 16th century tooled binding. These and several of our other most badly damaged items were still on a table in the James Joyce Room following a seminar on calligraphy and paleography earlier in the week. Nothing else was completely lost though a great deal was badly damaged.

Can this disaster at Northwestern University Library be of any use

to others? Are there any general principles embedded in this experience that might serve all of our colleagues for the future? Having lived with this event for almost two years, I think there are suggestions to be made which pertain to management of libraries in general and rare book and manuscript libraries in particular which bear consideration.

The element causing our damage was steam from the University's central heating plant coming into our building. You will better understand the nature of our calamity when I tell you that the steam leaves the heating plant some 150 yards north of the library at a temperature of 400° fahrenheit! It is cooled some by the time it reaches the Library, but not greatly. Secondly, estimates suggest that the event began sometime between 9 pm. and midnight on Saturday, May 29th, or 9 to 12 hours before it was discovered by our student assistant. An extraordinary amount of superheated steam was acting on the Special Collections Department and Art Collection for many, many hours.

Two things are central to any attempt to prevent a recurrence of this type in a building like ours which is 46 years old. First, preventive maintenance to all elements that might malfunction. Needless to say, this applies to all new buildings as well. Where there is electricity that heats a building, the major parts and junctions, wires and coils should be periodically checked. Where you have steam or hot water heat the valves ought to be checked periodically as well as couplings, regulators, thermostats, and, if you have groundwater problems, the pumps.

Especially critical is air conditioning because frequently it is on top of the building. Should a massive leak occur in a water holding tank atop a building there would be no way of adequately protecting those in the path of the water. Forget for a moment, rare books and manuscripts and

consider only general libraries. Could a library afford to replace 100,000 badly water damaged volumes such as we have on each of our tower floors? How many organizations like us carry self insurance? Perhaps we shouldn't ask that. Preventive maintenance is expensive and even then provides no guarantees of successful avoidance of disaster.

Secondly, the most expedient method of avoiding our disaster would have been a night watchman. Human judgement is still about the best computer device around. Get a night watchman, especially in light of recent library thefts. Pay the watchman well and give him reasonable authority. More and more people are desirous of acquiring not only the spirits of our books but the very books, manuscripts and paintings themselves! Most jewelers have inventories worth less than some of the collections we work in, but none would think of being as nonchalant about security as are some of us.

This event offered other suggestions as well. In our main reading room a few books got slightly wet inside the glass fronted bookcases, but not through the front of the cases. Seepage of moisture came through the joints of the cases. It might be well to go through your cases, both exhibit and storage, and seal the joints with a non-water soluable material. Had we not had the glass doors, many leather and vellum books in the cases around you would have been severely damaged.

Professor Fred Lewis, our chemistry friend mentioned earlier, estimated the temperature in the Joyce Room to have been around or above 250 during the event. Leather upholstery shrivelled, and disappeared, fine leather bindings turned from full crushed levant morocco to a series of tiny, hard dots randomly scattered over the spine.

There are two stories in our Joyce Treasure Room, each converying a message for book owners or custodians.

First, there are the older books which are leather bound, not fragile enough to prevent use, but the leather is very dry. Those of ours which had not been given leather dressing/potassium lactate treatment fared badly. Their bindings, when they didn't shrivel around the spine or pebble, stretched very tightly. The boards of Young's NIGHT THOUGHTS illustrated by William Blake fell into two pieces; happily in the insurance adjuster's hands! Volumes in ½ or ¼ vellum lost their spines; the vellum was so brittle and dry that it powdered.

There was, however, a further unforeseen problem; the heat was so intense that the glue in the spines crystallized, a phenomenon you cannot discover visually. When the spine leather is destroyed and the glue crystallized, your binding is, indeed, in poor condition. This happened to many of our books.

The second story tells another tale. We are fortunate at Northwestern University Library in having a modest restoration budget. Over the years we have had many books restored and treated many more to a good leather dressing. Those that were so treated were not badly damaged by the steam, even when exposed to it in the Joyce Room. The leather dressing seemed to add enough moisture to the old leathers to prevent the intense heat from badly damaging the bindings. As another conservation measure, we make heavy use of Gaylord envelopes. These have stiff sides with a pocket in the center into which a sleeve fits. Many of these were in the Joyce Room during the steam cleaning and while they were bleached, they survived the ordeal in remarkable style. As did any books that we had in boxes, either solander or drop-down.

I hesitate to ask the question forming in each of your minds--would we have suffered any book damage if the majority of our books and manuscripts had been boxed in one way or another, or been encased? The answer is obvious: a great deal less damage would have occurred. Perhaps if every item in the room had been in some way enclosed, no damage would have occurred to the materials. All of our circumstances are different and our disaster will probably not in any way duplicate itself--certainly we hope not!

Whatever the case might be, these ideas seem obvious to me from a management standpoint: 1. Restoration and conservation programs, however modest, can have a significant impact upon the protection of collections in disaster situations; 2. Even if one doesn't have access to an excellent restorer, a boxmaker of good quality can be enormously important to keeping your most valuable materials protected in an emergency; 3. Storage and exhibit cases with glass doors and specially sealed joints can do much to protect collections in a disaster situation; 4. Even if your program is most minimal and you can only afford potassium lactate and leather dressing applied by volunteers--by all means make every effort to do it. Volunteers, soft rags brought in by staff members and a few gallons of potassium lactate and leather dressing will be of great help in certain disaster situations; 5.. Hire a watch-person for the hours you are not open. If that proves impossible due to cost, perhaps you can affiliate with an agency in your area to have periodic checks made of your premises. Lastly, 6. try to have your machine components checked on a regular basis. Especially so for those which, if they malfunctioned, could cause enormous damage. This crystal-balling is indeed almost impossible, but every attempt should be made to try to see all parts of your system are checked.

One last general suggestion, each of you gather your staff and colleagues around a table or simply take it upon yourself to write out a single page summary of what should be done in case of a disaster. It should include who to contact, i.e. within the institution, local police or public safety, restorers or conservateurs within the area, what to do in case of fire, flood, steam, or weather related disaster; a priority of materials or projects to be dealt with first; where the controls are for various internal systems. Let me illustrate this. Some time ago a copier in one part of the Library began to burn; it produced a very acrid black smoke. This smoke was immediately sucked into the air-conditioning system and was vented 100 feet away into the office of the Head of Cataloging. It was imperative that the air-conditioning system be shut down immediately to prevent further alarm and problems where they were not. But the Library staff had no way of shutting it off, so the Catalog Department had to be evacuated. In a smokey fire or just a smoldering one, air-conditioning must be shut off.

Once you have your check-off sheet designed and have thoroughly indoctrinated yourselves and your colleagues, then, perhaps look at your overall physical plant to see what might be there that, if radically and abruptly altered could cause damage. Take nothing for granted and assume the worst--see what results. We have had some frightening surprises.

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REPORT ON THE JULY 11, 1976 FLOOD IN THE LABOR-MANAGEMENT DOCUMENTATION CENTER, M.P. CATHERWOOD LIBRARY, NEW YORK STATE SCHOOL OF INDUSTRIAL AND LABOR RELATIONS AT CORNELL AND SUBSEQUENT RECOVERY ACTIVITIES

At 7:00 p.m., Sunday, July 11th, I received a telephone call from Shirley Harper, ILR Librarian, informing me that the rain storm which we had been experiencing had resulted in the flooding of the first floor of the library wing of Ives Hall which houses the Labor-Management Documentation Center and its collection of twelve million documents. I arrived at the Center at 7:45 to discover two inches of standing water in our facility (see diagram, appendis I), in part of the first floor of the Administrative-Faculty wing of the building (diagram, appendix II), and in B-13, our basement storage area in the latter wing (diagram, appendix III).

Water had apparently poured into the building when the storm drains in the parking lot adjacent to Ives Hall were unable to contain the water flowing down hill out of Alumni Field. The water then backed up along the east wall of the Hall and flowed into the window wells servicing room 131 (the lower panes of the window were forced out by the water pressure), the vent in the transformer room and the air conditioning intake in room 143 (appendix I). The high water mark in the tunnel between the library wing and conference center measured 1.5 feet, but in most of the library wing the water did not get over two inches high. Continuing to flow down hill, the water entered the first floor of the Administrative-Faculty Wing and moved down to the elevator shaft into the basement. Water also flowed in through the roof of B-13 in the basement.

DAMAGE

Library Wing

In this area, damage was limited to boxes of records stacked on the floor because of lack of shelf space. Most of the damage occured to the records of the New York State Teachers Association, the New York State Public Employment Relations Board, and personal research material stored as a "kindness" to Professor Philip Ross. In all, 234 boxes of records located in stack areas in rooms 131, 140, 147, 148, and 149 were in need of drying and fumigation. Over sixty percent of the $5000 worth of empty boxes stored on two-inch high pallets in room 143 were soaked to the point where they had to be discarded. (See IV for a complete inventory of damaged documents).

Room B-13, Administrative-Faculty Wing

Water poured through structural cracks and holes in the ceiling and onto the stacks in the portion of the room used by the Documentation Center. Fortunately, the presence of steam pipes in the room and the potential threat of their leakage had caused us to cover the stack tops with mylar sheeting which overlapped the tops of the shelves by 4 inches all around. Such damage as did occur, resulted largely from water splashing off the floor between the stacks. In all, 116 boxes were damaged; the bulk of these coming from the McKelvey and Cook collections and the Railroad Labor Executive Association and Railway Employees Department, AFL-CIO.

SALVAGE, DRYING AND CLEANUP

Thanks to the immediate response of Professors Clark, Morris, Windmuller, Mrs. Windmuller, Herbert Finch, Robert Moore of Olin Library and Andrew Rossner, our student assistant, to telephone calls by Mrs. Harper, a great deal of potential damage was averted by the removal of several hundred boxes in danger of being spilled into the flooded passageways as the soaked boxes under them collapsed.

The building's janitorial crew was called in to work overnight and did an excellent job of removing the standing water from the floors in the entire school.

Monday morning, July 12, volunteers from the library and around the School helped rebox 350 linear feet of water-damaged records into new boxes loaned to us by Olin Library's Department of Manuscripts and Archives. At the same time a freezer truck was hired and the reboxed records were placed in an atmosphere of -10F. to prevent further sizing damage and mold growth.

In keeping with evolved conservation techniques, it was decided to freeze dry and fumigate the damaged documents. Contact was made with Mr. Peter Waters, Restoration Officer at the Library of Congress, who has had much experience in such emergencies and he assisted us in obtaining the services of the General Electric Space Center which had the facilities and technical ability necessary to handle the large amount of material to be processed. The combination of fumigation and freeze drying developed by Mr. Waters and other leading conservators in conjunction with G.E. measurably decreases the possibility of ordinary typing and note paper sticking together, a common result of flood damage, and controls the destructive mold growth which would otherwise inevitably occur. Hand drying of the over 756,000 documents effected would have required long term storage in expensive freezer storage, the training of personnel and setting up of a drying room, and between 10 and 15 man years of work.*

In addition to manuscript materials, eighteen boxes of soaked documents from the Cornell Personnel Department also located in Ives Hall were sent for freeze drying and fumigation.

The documents returned July 28th. Our initial examination reveals that apart from a few file folders sticking together due to the leaching out of the glue on their labels and the loss of some coated paper (china clay based paper used in popular magazines), our conservation effort has resulted in recovery of nearly 100 percent of the documents in a usuable if stained condition.

Mold culture medium were exposed in all the flooded stack areas two days after the disaster to determine if area fumigation was necessary. The cool weather and the relatively rapid decline in humidity in the rooms made such fumigation unnecessary.

* This estimate is based upon my experience during the 1971 engineering library flood when I supervised a hand drying and fumigation operation for 1500 books. It took a specially trained clerical assistant one year to complete the project.

In the time between the dispatch of our damaged records and their return, the Center's Research Assistant, Mrs. Constance Bulkley supervised and coordinated our massive clean up operations, thus allowing me to finish what was left of my vacation. As in every task she undertakes, Mrs. Bulkley did a superb job. Our student assistant, Andrew Rossner, also performed in a manner which is simply beyond praise.

PROBLEMS ENCOUNTERED IN THE EMERGENCY

Dispite the publication of a library emergency manual, the Cornell University Libraries, and, for that matter, the University as a whole, can still use some refinements in the logistical operations connected with such emergencies. Without the immediate response of the volunteer labor rounded up by Mrs. Harper, we would have been involved in a far greater task. A prepared list of standing volunteers trained in emergency procedures would have immensely expedited our operations.

It was impossible for the writer to locate the Buildings and Property Supervisor, if any, who was coordinating the efforts at water removal and electrical control. As a safety measure to avoid shock hazards, the power was cut off about 8:30. To my knowledge, no effort was made to find out who was in the building prior to this shutdown. Fortunately those of us who had been working below ground had flashlights in hand and the potential for serious injury in stumbling about in the dark was avoided.

Indeed, it was well that we had stockpiled some battery powered lights in the library, since it was virtually impossible to acquire any from the Safety Division located next door. Our initial request to borrow some equipment was simply refused and, when we persisted, the officer in charge agreed to lend us some flashlights but was unable to find the key to the cabinet in which they were kept! Additional lights were located in Olin Library by Dr. Finch after an hour's searching. Needless to say, our volunteer effort was seriously hampered until the necessary additional lighting was acquired.

RECOMMENDATIONS AND PREVENTATIVE MEASURES

1. Prevention of similar occurances - It is suggested that some form of six inch or higher curb - perhaps of cinderblock or waterproof concrete - be built around the wells on the east wall of the library wing. Further precautions in this area might include a check valve on the feeder line which services the drains at the bottom of these wells. This valve would allow passage of water into the storm sewer but would eliminate the possibility of flow in the other direction. New five inch high wooden pallets have been installed where previously materials were allowed to rest directly on the floor in the library wing. B-13 is a hazardous place to store records and should be evacuated as soon as new storage facilities become available.

2. Appointment of an On-Site Emergency Coordinator, and several deputies, whether from the Safety Division, Life Safety Services, or B&P, whose job it

would be to coordinate all rescue and immediate conservation efforts and CONTROL ACCESS TO THE DISASTER SITE thus preventing potential loss of life or injury through electrocution, building collapse, etc. when untrained and unauthorized persons are wandering in a potentially dangerous location.

3. Lighting Source - library stacks are particularly vulnarable when the electricity is turned off and recovery operations are impossible until a safe, effective and mobile lighting is provided. The provision of such resources should probably be the task of a safety coordinator. In his or her absence, 10-12 battery powered lantern-type lights with extra batteries should be stored in a central location in the library system for emergency use.

4. Implementation of the suggestions of the CUL Committee on Safety and Emergencies - To my knowledge, the suggestions on pp. 29-39 of the manual have not been implemented. They should be and the various library emergency coordinators and their deputies should constitute a core of trained volunteers to respond to <u>any</u> library emergency endangering the collections.

COST OF THE RECOVERY OPERATION AND REPLACEMENT OF LOST SUPPLIES

Shipment to Valley Forge Space Center in Freezer Truck	$ 506.38
Return Shipment	405.60
Freeze-drying and Fumigation	8400.00
Labor	
Regular Staff	1859.50
Student Assistants	750.00
Replacement boxes	435.00
Replacement of stored supplies	2654.00
Total Loss to M.P. Catherwood Library	$15018.00
18 boxes treated for Personnel (@ $25.00 per box based on pro-rated cost of shipment, fumigation and freeze drying)	450.00
TOTAL	$15,468.00

Respectfully Submitted,

Richard Strassberg
Director, Labor-Management Documentation Center

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Excerpt from "The Stanford-Lockheed Meyer Library Flood Report", which documents the November 4, 1978 flood at Stanford University in which over 50,000 volumes from the general research collections were soaked, and the salvage operation which restored virtually all of them to the shelves within a year.

Portions of the report were published in College & Research Libraries, 40:450-59 and 40:539-46 (September, November 1979).

The complete report, including detailed technical information about the vacuum-drying process used by the Lockheed Missile and Space Company, will appear in Disasters: Prevention and Coping, Proceedings of a Conference Held at Stanford University May 21-22, 1980, to be published by the Stanford University Libraries in early 1981.

SUMMARY

It is obvious that the successful recovery of the books is due in great part to the fact that their exposure time to water was held to a minimum. Quick freezing stopped chemical and biological action. Those books frozen after forty hours were more swollen and distorted than the ones frozen after ten hours. Having a disaster action plan to follow, and contacts already made for supplies and services, made possible immediate response without wasting time. The vacuum process dried massive amounts of material efficiently with no apparent adverse effects from the process itself.

The invaluable volunteer effort by staff, students and friends provided the care and labor required to help make the Project a success. Finally, the Project Staff (Appendix G) itself not only worked the hours expected, but also gave extra amounts of time and energy because of its concern and dedication.

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The final direct cost of the flood to the University was approximately $125,000. In addition, approximately $79,000 of services were donated by various companies. The cost, including donated services, was about $4.86 per item. This includes all costs associated with the flood: staff salaries and benefits, services, equipment, site rental, supplies and labor. It does not include the 3062 volunteer hours contributed. The costs of each budget phase may be seen in Appendix H.

CONCLUSIONS

In retrospect, the following conclusion have been drawn by the Restoration Project:

1. Never store library materials on the floor of the lowest level of a building. In fact, it is a good idea to keep all materials off the floor. Just the four inches of the base shelf above the floor in standard shelving can make a world of difference.

2. Install appropriate early-warning devices in significant stack areas. A water detector can be made with a sponge (the type that expands rapidly when wet), in contact with the floor and fitted within a box with a microswitch tied into a central alarm system.

3. Ensure that the local authorities who might respond to an emergency have, and will use, a phone list of key persons in the organization.

4. Maintain a disaster file with all types of information including names and phone numbers of freezer facilities, paper suppliers, truck rental agencies, people who can help. Contact these people to establish an understanding before disaster strikes. All contacts should be renewed frequently. All senior library officials should have basic information at their homes.

5. Move expeditiously but with care. The effort can be long and physically and emotionally very tiring. The first goal is to stabilize the environment and remove the wet materials to a freezer as soon as possible. Wrong planning decisions can seldom be reversed and can be costly.

6. If concerned, consult an electrician prior to entering a flooded area. While the likelihood of shock is fairly low, there can be real hazards.

7. Open windows and doors, and turn on the ventilation system (without heat) as soon as possible to remove humid air. In some cases, it may even be worth breaking out some windows. The warmer and the more humid the environment, the faster the mold forms.

8. Work on the details before you muster a large work crew. You will probably need food, supplies, and certain equipment actually on hand or on the way before starting the real task. Establish who is responsible for what. Probably only two crews can work in a range aisle.

9. Maintain a command post. Stanford received a constant flow of calls once the flood made the news. If nothing else, it is good public relations to respond to these calls. Occasionally, a truly useful bit of information may be received.

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10. Do not jump into the "ideal" solution you may have heard about. Consult experts before doing something new or untried; find out if you can why it has not been done before, or how successful the results were. Compare your situation to see if similar conditions exist.

11. Unless you are moving materials over excessive distances, do not worry about a freezer truck. Of course, if one is available, it is useful; but it is more likely to be difficult to find a reliable one.

12. In a large disaster, use pallets, pallet movers, and forklifts. You can load trucks quickly without a loading dock by means of this equipment.

13. Do not be overly concerned about numbering each box. For us it was a nearly total waste of time, except for planning moves to the chamber. Do keep count of materials. Photographs are helpful.

14. Don't wrap each book completely in freezer paper. For the wet items, single sheets of freezer paper between volumes are enough. The best wrapping technique appears to be placing a wet book spine down in the center of a sheet of freezer paper, and simply bringing the paper loosely up around the sides of the book.

15. If possible, loosen the tightly packed books before they swell and jam themselves in so thoroughly on the shelves as to be nearly impossible to remove (ten hours maximum, in Stanford's case).

16. Have one person watch for logistical logjams. Often a little common sense or ingenuity can greatly improve the flow of materials.

17. When materials have fallen to the floor and are thereby badly distorted, careful straightening may be considered. Remember that wet paper tears easily. The text is what one wants to save, and some flattening during packing may help greatly during restoration. Books frozen in distorted condition tend to remain distorted when dried.

19. If books stick together, they will come apart in the freeze-drying process. If they separate easily, fine; but otherwise they should be left stuck together.

20. Do not get too discouraged. At the worst, you will look back upon any such event as an "interesting" experience. On the positive side, the enthusiasm generated by staff and volunteers in the interest of helping is indeed rewarding. And, with hard work, a few basic utilities and facilities, and perhaps a little luck, you can save most of the material.